Subject Index to Volume 41

A

A-23187

pulmonary vascular response to, in newborn, chronic hypoxia and, H2436

Acetazolamide

and intracellular chloride in cardiomyocytes, H735

Acetylcholine

conducted vasodilation induced by, H1364

and hyperpolarization and relaxation in mesenteric arteries, H2306

mesenteric arterial response to, in hypertensive rats, H493

pulmonary vascular response to, in newborn, chronic hypoxia and, H2436

and reactivity of skeletal muscle arterioles, during chronic myocardial infarction, H2403

venular response to, in skeletal muscle, H2541

Acidosis

during reperfusion, and myocardial infarct size, H2071

Actin

fibers, codistribution with fibronectin, in vascular system, H2188

Action potentials

cardiomyocyte

L-type calcium currents and, H227 modulation of, H1759, H1798 oxidative stress-induced changes in, ATP and, H1598

duration

in cardiac hypertrophy, H2853 cumulative changes in (memory), and cardiac Purkinje fibers, H1826 relaxin and, H1798 with ventricular hypertrophy, H1078 in ventricular tissue, H107

myocardial, recording, H1917 Adenosine

and adrenergic neurotransmission, in pulmonary artery, H1100

and ATP-sensitive potassium channels, synergism, in memory of ischemic preconditioning, H334

cardioprotective effects, H1857 and flow-induced dilation in coronary microvasculature, H1571

formation, cardiac, inorganic phosphate and, H913

in human pediatric cardiomyocyte preconditioning, H1220

infusion, effects on pulmonary and systemic circulations, in sheep, H921 and myocardial metabolism, during

coronary stenosis, H2195 negative chronotropic effects, H1898 and norepinephrine release, in pulmonary circulation, H1100

output from muscle, in hypoxia, intracellular lactate and, H318

and pulmonary vasodilation in response to birth-related stimuli, in fetal lamb, H2377 regulation of mast cell degranulation, and arteriolar constriction during vascular stunning, H2154

stimulation of DNA synthesis, in human endothelial cells, H1470 in working guinea pig heart, H371

Adenosine 3',5'-cyclic monophosphate

and carbachol inhibition of β-receptor subtypes, H2726

and opioids, in hypoxic vasodilation, H1350

in phospholamban-knockout mouse hearts, β-adrenergic regulation of, H785

Adenosine diphosphate

and bleeding time in hemolysis, H2875 Adenosine monophosphate

in working guinea pig heart, H371

Adenosine receptors

activation, and modulation of ATPsensitive potassium channels in cardiomyocytes, H325

β-blockade and transregulation of, H1672

in pulmonary vasculature, H1100 subtypes

detection in outer medullary descending vasa recta, RT-PCR for, H1231 in neural stunning of sympathetic coronary innervation, H25

Adenosine 5'-triphosphate

ATP-sensitive potassium channel sensitivity to, alterations in heart failure, H1656

in cardiac recovery with ischemia-reperfusion, heat acclimation with exercise and, H2085

extracellular, arteriolar responses to, in skeletal muscle, H1886

hydrolysis, during myocardial ischemia, H2563

intracellular, and calcium current regulation in vascular smooth muscle, H814

myocardial, production, in mammalian heart, H769

and oxidative injury in cardiomyocytes, H1598

and pulmonary vasodilation in response to birth-related stimuli, in fetal lamb, H2377

synthesis, during myocardial ischemia, H2563

vagal reflex triggered by, H1898

Adenovirus

as gene transfer vector, intrapericardial administration of, H310

Adenylate cyclase

activity, in neonatal cardiomyocytes, cytokines and, H1937

Adenylyl cyclase

activity, in heart failure, H884 and cardiac contractility, H1672

Adhesion molecules

see also Selectins

in cerebral circulation, H2622 in mesenteric microvasculature, H2584 in polymorphonuclear cells, H2852

β-Adrenergic receptor kinase

and cardiac function, studies in transgenic mice, H590, H1553

Adrenergic receptors

signaling, altered in transgenic mice, cardiac function with, H1553

α-Adrenergic receptors

 α_1 -

agonists, and muscle metabolism, H2146

antagonists, and muscle metabolism, H2146

α_{1C*}, human, modulation of potassium channels coexpressed in *Xenopus* oocytes, H1275

antagonists, and myocardial pH_i regulation during hypoxia, H2664

signal transduction by, and sympathetic modulation of vasomotor activity, H485

β-Adrenergic receptors

 β_1 - and β_2 -carbachol inhibition of, H2726

agonists

and diaphragmatic microcirculation, H2173

stimulation of smooth muscle cells, H244

blockade, and transregulation of inhibitory receptors, H1672

cardioselective, H2726

myocardial, in canine heart failure model, H478

regulation of cAMP and protein phosphorylation, in phospholambanknockout mouse hearts, H785

Adrenocorticotropin

cardiac effects of, H2115

Aging

and baroreflex function, H776 and blood pressure variability, H776 and blood volume in females, exercise and, H2534

cardiac function in, exercise training and, H995

and decreased vasodilator sensitivity in skin, H1609

and protein import into cardiac mitochondria, H2983

Alkalosis

and recovery from cerebral ischemia, H2557

Altitude

cardiac enzymatic adaptation to, H1690

Amino acids

branched-chain, myocardial concentration of, H1063

excitatory, receptors, and exercise-pressor reflex, H2774

myocardial concentration of, in coronary artery surgery, H1063 transport, myocardial, H1063

3-Aminobenzamide

effects on cardiomyocytes, after oxidative stress, H1598

Aminoguanidine

nitric oxide synthase inhibition by, effects in acute endotoxemia, H843

Angiogenesis

adenosine-stimulated, H1470

Angiotensin-converting enzyme

inhibition

and aortic viscoelasticity, H859 effects on cardiomyocyte apoptosis, in spontaneously hypertensive rats,

in low-renin hypertension, H679 and regional myocardial effects of bradykinin, H1266

Angiotensin II

see also Renin-angiotensin system blockade, in acute effects of angiotensinconverting enzyme inhibitors, H679

hypertension induced by, neonatal sympathectomy and, H648

mesenteric arterial response to, in hypertensive rats, H493 and myocardial contractility, H1131

secretion, in cardiomyocytes and endothelial cells, H958

and tonic baroreflex suppression, H2204 vasoreactivity to, in hypoxia, H1945

Angiotensin III

and tonic baroreflex suppression, H2204

Angiotensin II receptors

antagonism, chronic effects, in heart failure, H2139

and cardiovascular remodeling, H2131

expression, in hypercholesterolemia, H2701

 AT_2

in apoptosis, H2313

and tonic baroreflex suppression, H2204

blockade, and aortic viscoelasticity, H859

Anisotropy

in ventricular tissue, H107

Anorexia

and cardiac adaptation to hypoxia, H1690

Antiarrhythmic agent

effects on reentrant arrhythmias, in subacute myocardial infarction, H299

Antiarrhythmic drugs

class III, mechanism of action, H1292

Antimitogenesis

nitric oxide-induced, mechanism of, H1342

Antioxidants

in postischemic skeletal muscle, H83

compliance, in pregnant rats, H1260 remodeling, flow-induced, H851 stiffness, and cardiac function, H2211 viscoelasticity

angiotensin-converting enzyme inhibition and, H859

angiotensin II receptor blockade and, H859

Aortic arch

baroreceptors, and heart rate control, H2343

Apamin

and myogenic response in mesenteric arteries, H2306

Apoptosis

cardiomyocyte, during transition to heart failure, in spontaneously hypertensive rats, H2313 in circulating neutrophils, H2852 endothelial, nitric oxide and, H760

intracellular calcium-release channels and, H597

Arachidonic acid

and cardiomyocyte contraction, H350 metabolism, in endothelial cells, hypoxia and, H1426

L-Arginine

and bleeding time in hemolysis, H2875 and reactivity of skeletal muscle arterioles, during chronic myocardial infarction, H2403

Arginine-glycine-aspartic acid (RGD) sequence

peptide containing, and integrin-

mediated vasodilation, H2065
Arginine vasopressin, see Vasopressin Arrhythmias

ectopic focus, modulation of, H1759 human atrial L-type calcium currents and, H227

ionic mechanisms of, H236 myocardial repolarization/conduction velocity measurement and, H1917 reentrant, lidocaine and, H299

sinus, in humans, H123 ventricular, H1826

Arteries

cerebral, see Cerebral arteries contractility, endothelin-1 in, H2385 coronary, see Coronary arteries endothelin-1 gene expression in, H2385 hydraulic conductivity, H2023 injury, macromolecular transport in,

H1560 internal elastic lamina fenestrae,

H2023

intima

compaction, H2023

compressible, fiber matrix model for filtration in artery wall with, H2023

lipid liposome growth in, modeling of, H1033

matrix, H2023

intrapulmonary, relaxation, postnatal maturation of, chronic hypoxia and, H2436

large, compliance, in pregnant rats, H1260

mesenteric

ACh-induced relaxation in, H2306 adrenergic responses in, vasopressin and, H1087

developing myogenic contraction in, cytosolic calcium and protein kinase Cin, H1165

endothelium-dependent hyperpolarization in, H2306

myogenic response, calcium-sensitive potassium channels and, H2241 norepinephrine release in, nitric oxide and, H207

repair, autocrine C-type natriuretic peptide in, H2919

resistance

adrenergic sensitivity, estrogen and, H2264

chaotic vasomotion in, smooth muscle calcium stores and, H1696

small

developing myogenic contraction in, cytosolic calcium and protein kinase C in, H1165 iloprost dilation of, H1147 structure, in pregnant rats, H1260

Arterioles

see also Microvasculature

constriction, in skeletal muscle during vascular stunning, H2154

coronary, ventricular contraction and, H2963

diaphragmatic, myogenic response in, hypercapnia and, H1419

endothelium-dependent dilatation in vivo, nicotine and, H2337

leukocyte rolling in, cytokines and, H1725

myogenic tone, in male vs. female rats, H1804

pial, dexmedetomidine and, H2547 pressure, effects on conducted vasodilation, H2895

responses

to extracellular ATP, in skeletal muscle, H1886

to occlusion, flow-dependent dilation and, H714

to sustained vasodilator stimuli, H1364

selectin-mediated leukocyte rolling in, TNF-α and, H1391

skeletal muscle, reactivity, effect of chronic myocardial infarction on, H2403

Arteriosclerosis

hypercholesterolemia and, H2701

Ascorbate

and ischemia-reperfusion in skeletal muscle, H83

Aspartate

myocardial concentration of, in coronary artery surgery, H1063

Asphyxia

birth, cerebral ischemic injury in, H2622

Atherosclerosis

experimental, basic fibroblast growth factor in, H613 pathogenesis of, H17, H1810, H1996,

H2577

regional vascular mechanics in, threedimensional ultrasound of, H425

Atrial fibrillation

atrial natriuretic peptide release during, H820 ventricular rate in, autonomic modula-

tion of, H1643 Atrial natriuretic peptide

activity, in heart failure, H2139 gene expression, ETA receptors and, H130

release

atrial stretch and, H820 atrial systolic pressure and, H820 secretion, in lactate-induced panic attacks, H2630

Atrioventricular node

conduction, nitric oxide and, H263 conduction time, effects of phasic vagal stimulation and atrial pacing site on, H2289

facilitation, mechanism of, in rabbit heart, H2815

intrinsic properties, in rabbit heart, H2815

physiology, in rabbit heart, H2815

Autonomic dysreflexia in rat model of spinal cord injury, H625 Autonomic nervous system

blockade, and system identification of closed-loop cardiovascular control, H448

and cardiac function, gender differences in. H1412

central cardiovascular oscillatory activity, in humans, H123

in lactate-induced panic attacks, H2630 nitric oxide and, in open-chest dogs,

response to mental stress, H1113 and ventricular rate in atrial fibrillation, H1643

Autoregulation

of coronary microcirculation, H567

Bacterial translocation in posttraumatic sepsis, H2219 Baroreceptors

sensitivity, impulse response analysis of, H1866

Baroreflex

and area postrema-induced inhibition of exercise-pressor reflex, H1650 arterial

control of sinus node during dynamic exercise, H1157

and heart rate control, H2343 cardiopulmonary, and heart rate control, H2343

carotid, function, H1359 central, regulation of sympathetic nerve activity, nitric oxide in, H2446

function, during heat stress, H776 and heart rate control, in humans,

H123 human, phase dependencies of, H2040 modulation, by endogenous angiotensins, AT2 receptors and, H2204

sensitivity in canine heart failure model, H478 progesterone and, in ewes, H386

Basilar artery

calcium-dependent potassium currents, during hypertension, H1287 histamine-evoked membrane currents

in, H638 **BAY K 8644**

cardioprotection and, H927

BAY y 5959

effects in conscious dogs, H753 pharmacology of, H753

Bimakalim

and memory of ischemic preconditioning, in dogs, H334

Bleeding time

prolongation in hemolysis, nitric oxidemediated, H2875

Blood

viscosity and cerebral capillary flow, H1833 exercise training and, H1070 in vivo, H2716

Blood flow

see also Hemodynamics cerebral, see Cerebral blood flow choroidal, in rats, H1444 coronary, see Coronary blood flow hepatic, regulation, after shock, H2736

in dynamic exercise, hypoxia and, H2655

and head-down neck flexion, H1780 muscle, and microvascular structure and function with muscle length changes, H2107

myocardial

positron emission tomography of, H343

tracers, rubidium and thallium as, H1480

nerve, exogenous opioids and, H76 nutritive vs. nonnutritive, in perfused rat hindlimb, H2146

regional, pulmonary, H1537 renal

during heat stress, H776 regulation, adenosine in, H1231 skin, aging and, H1609 uterine, and fetal growth, in rats, H701

Blood pressure

see also Hemodynamics; Hypertension; Hypotension; Shock

in abdominal ischemia, H791

changes, and heart rate, H2343 progesterone and, in ewes, H386 systemic, vasomotor component, selective activation of, H485 enkephalins and, H2885

and exercise effects on cardiac autonomic tonus, gender differences in, H1412

regulation

cardiopulmonary loading and, H1359 during muscle contraction, H2774 in rat model of spinal cord injury, H625

urocortin and, in sheep, H2115 variability, H1866 aging and, H776 during heat stress, H776 nitric oxide and, in rats, H632 variability responses to psychological challenges, cardiac autonomic

control and, H2227 Blood substitute

cerebral capillary flow heterogeneity with, H1833 oxygen-carrying capacity, studies with

oxygen-15, H2492

Blood volume

in females, age-related decline in, effects of exercise on, H2534

Bone marrow

polymorphonuclear leukocyte release from, L-selectin and, H1717

Bosentan

and hemodynamic effects of endothelin-1, H2353 and hepatic blood flow regulation after

shock, H2736

BQ-610

and hepatic blood flow regulation after shock, H2736

Bradyarrhythmias

cardiocardiac vagal depressor reflex and, H1898

Bradvkinin

pulmonary vasodilator responses to, inhalational anesthesia and, H290 and regional myocardial function, H1266

see also Cerebral blood flow

area postrema, and exercise-pressor reflex, H1650

glucose metabolism

and blood flow, uncoupling after brain injury, H2859

epinephrine and, H1666

injury

metabolism-blood flow uncoupling after, H2859 traumatic, and cerebral artery con-

tractility, H1406

ischemic injury to, H2622 nucleus reticularis ventrolateralis, and

baroreflex modulation by endogenous angiotensins, H2204

Bretylium

and cutaneous vascular conductance with heat stress, aging and, H1609

and intracellular chloride in cardiomyocytes, H735

N-tert-Butyl-α-phenylnitrone in ischemia-reperfusion, H1986

Cadmium ions

inhibition of sodium/calcium exchange and calcium channels in cardiomyocytes, H2164

Calcitonin gene-related peptide

and cutaneous vasodilation during dorsal column stimulation, H950

and reactivity of skeletal muscle arterioles, during chronic myocardial infarction, H2403

Calcium ATPase

in pressure-overload cardiac hypertrophy, H158

sarcoplasmic reticulum

downregulation, during progression of left ventricular hypertrophy, H2416

and phospholamban expression, coordinate regulation in developing heart, H57

Calcium channels

see also Calcium currents

ATP-sensitive, in arterial endothelial cells, H2507

in cardiomyocytes, inhibition by external cadmium ions, H2164 voltage-dependent, and pulmonary

vasoreactivity to serotonin, H740 Calcium currents

see also Calcium channels

in cardiomyocytes

in pressure-overload hypertrophy, H2425

in rats, H797

L-type in cardiac hypertrophy, stage-dependent changes in, H2853

function, phospholamban and, H606 human atrial, H227

human cardiac, isoforms of, H1372 inactivation in human cardiomyo-

cytes, mechanisms of, H1625 α₁-subunit, splice variants of, H1372 in ventricular mycocytes, IL-1β-induced inhibition of, ceramide and,

H2591 in pacemaker activity in sinoatrial node, H2793

regulation, by intracellular ATP, in vascular smooth muscle, H814 T-type, in hypertensive lungs, H2616

Calcium currents (continued)

in vascular smooth muscle, dependence on glycolysis, H987

with ventricular hypertrophy, H1078

Calcium ions

cytoplasmic, see Calcium ions, intracellular

cytosolic

see also Calcium ions, intracellular

in anoxic ventricular myocytes, H2679

in developing myogenic contraction in small arteries, H1165

integrin-mediated reduction, in vascular smooth muscle, H2065

in vascular smooth muscle, estrogen and, H1996

extracellular, and myocardial contractility, H1196

fluxes, in cardiomyocytes, in pressureoverload hypertrophy, H2425

influx, into cardiomyocytes, relaxin and, H1798

intracellular

in cardiomyocytes, H797 carnosine modulation of, H462 vs. intracellular free zinc, H2095 and cGMP effects on endothelial per-

meability, H91 endothelial, nitric oxide synthase inhibition and, H176

and frequency of calcium sparks in cardiomyocytes, H657

redistribution after β-adrenergic stimulation of smooth muscle cells, H244

overload

in myocardial ischemia, H2071 and ventricular function, H1838

permeating, and L-type calcium channel inactivation in cardiomyocytes, H1625

release, intracellular, H597

sensitivity to, cerebrovascular, in sheep, H2271

sequestration, and arterial chaos, H1696

signaling, via tyrosine kinase, L-selectin-dependent, H1302

transients

in cardiac trabeculae, sarcomere length and, H1892

in cardiomyocytes, arachidonic acid and, H350

in diabetic cardiomyocytes, H148, H159 in neonatal cardiomyocytes, cytokines

and, H1937 transport, with left ventricular hyper-

trophy, H2416 waves, confocal imaging of, in whole heart, H236

Calcium promoter

effects in conscious dogs, H753 pharmacology of, H753

Calreticulin

in pressure-overload cardiac hypertrophy, H158

Calsequestrin

in pressure-overload cardiac hypertrophy, H158

Capillaries

see also Microvasculature

blood flow in, during muscle contraction, H2693

cerebral, plasma perfusion, blood substitute and, H1833

geometry, with muscle length changes, H2107 leukocyte activation, in chronic muscle

ischemia, H2757 permeability, to small protein mol-

ecules, H937
red blood cell flow, in chronic muscle

ischemia, H2757

Captopril

and interstitial fibrin deposition in myocarditis, H211

in low-renin hypertension, H679

Cardiac hypertrophy

after reperfusion, H1205 chloride current component in, H2500 electrophysiological alterations with, H1078

left ventricular, H2131

progression, downregulation of sarcoplasmic reticulum calcium ATPase during, H2416

magnetic resonance imaging in, in mice, H2394

mechanochemical signaling in, H2902 membrane currents in, stage-dependent changes in, H2853

physiological, H1876 preproenkephalin and, H2885

preproenkephalin and, H2885 pressure-overload

cardiomyocyte calcium fluxes and sarcoplasmic reticulum loading in, H2425

rat model, H2131

sarcoplasmic reticulum calcium-storing proteins in, H158

right ventricular, and cardiac adaptation to hypoxia, H1690 in transgenic mice, H2513

volume-overload, oxidative metabolism in, H1615

Cardiac output

see also **Hemodynamics** computing methods, H2004 in pseudopregnancy, in rats, H695

Cardiac rehabilitation rat model, H409

Cardiac tamponade

right-left heart interaction with, modeling, H1499

Cardiocardiac reflex ATP-triggered, H1898

Cardiolipin

and mitochondrial biogenesis, H2983

Cardiomyocytes

 β_1 - and β_2 -adrenergic receptors, carbachol inhibition of, H2726

angiotensin II secretion in, H958 anoxic, cytosolic calcium, sodium, and pH in, H2679

apoptosis, during transition to heart failure, in spontaneously hypertensive rats, H2313

ATP-sensitive potassium channels alterations in heart failure, H1656 modulation by adenosine, H325

basic fibroblast growth factor in, H958 calcium channels in, inhibition by external cadmium ions, H2164

calcium fluxes, in pressure-overload hypertrophy, H2425 cell volume, endotoxin and, H2989 chloride current component, induced by cardiac hypertrophy, H2500

contractile dysfunction in, in diabetes, H148, H159

contractility, carnosine modulation of, H462

contraction, arachidonic acid and, H350 cytokine-activated, neutrophil adhesion to, inhibition by nitric oxide, H2807

delayed rectifier potassium current, effects of intracellular magnesium on, H1292

depolarization, swelling-induced chloride currents and, H1904

development, regulation by 1,25-dihydroxyvitamin D_3 , H1751

DNA synthesis, in injured myocardium, H220

excitation-contraction coupling in, H657, H2164

frequency of calcium sparks in, H657 from genetically engineered mice, single-cell phenotypes, H2513

growth, regulation, in adult, H2902 human atrial, L-type calcium currents in, H227

human pediatric, preconditioning, adenosine and protein kinase C in, H1220

hypertrophy, captopril and, H211 inducible nitric oxide synthase in, functional significance of, H35

intracellular calcium in, carnosine modulation of, H462

intracellular free zinc, oxidants and, H2095

intracellular pH, and ischemic preconditioning, H544

inward rectifier potassium channels in, development of, H1741

L-type calcium channels

function, phospholamban and, H606 inactivation, mechanisms of, H1625

lysophosphatidylcholine production in, thrombin activation of PLA₂ and, H1972

mechanical behavior, myocardial infarction and, H360

neonatal

cytokines and, H1937 effects of endothelin-1 on, H130

opioid receptor interaction with β-adrenergic receptors in, H797

oxidative injury, ATP and, H1598 potassium channel expression, IGF-I

regulation of, in neonatal rats, H2599

proliferation and hypertrophy, regulation by 1,25-dihydroxyvitamin D_3 , H1751 protein kinase C- α expression, in adult

rats, H2485 relaxin effects on, H1791, H1798

sarcoplasmic reticulum, upregulation by TGF-β1, H2639

sodium/calcium exchange in, inhibition by external cadmium ions, H2164 sodium-independent inward chloride

pumping in, H735 sodium pump, dietary cholesterol and,

H1680 sodium uptake and efflux, thyroid status and, H1589

transient outward current in, H1

ventricular, IL-1β-induced inhibition of calcium current in, ceramide and, H2591

volume, in pressure-overload hypertrophy, H2425

Cardiomyopathy

dilated, in transgenic mice, H2513 induced by cardiac $G_s\alpha$ overexpression, H585

Cardioplegia

and myocardial concentration of amino acids, H1063

Cardioprotection, see Ischemic preconditioning

Cardiovascular disease

pathogenesis of, endothelin-1 in, H2385

Cardiovascular system

reflex responses to ischemia, H791 regulation of, H1866

Cardiovascular system identification autonomic blockade and, H448

Carnosine

modulation of cardiac intracellular calcium and contractility, H462

Carotid sinus

baroreceptors, and heart rate control, H2343

Cats

exercise pressor reflex in, H48 heart, papillary muscles, effects of angiotensin II on, H1131 vasodilator responses to T-kinin, H1491

Celiac artery

occlusion, reflex response to ischemia with, H791

Cell cycle

effects of nitric oxide on, in smooth muscle, H1810

Cell death

programmed, see Apoptosis

Cell proliferation

endothelial cell, nitric oxide and, H760 in smooth muscle, nitric oxide and, H1810

in vascular smooth muscle, estrogen and, H1996

Cell shrinkage, see Cell volume Cell swelling, see Cell volume Cell viability

of human pediatric cardiomyocytes, H1220

Cell volume

in cardiomyocytes effects on chloride current in, H1904 endotoxin and, H2989

Central nervous system

cardiovascular oscillator, in humans, H123

Ceramide

and IL-1β-induced inhibition of calcium current in ventricular mycocytes, H2591

Cerebral arteries

calcium sensitivity, H2271 contractility, traumatic brain injury and, H1406

histamine-evoked membrane currents in, H638

nitric oxide and potassium channels in, H256

occlusion, infarct size with, basic fibroblast growth factor and, H1401 physiological variations in, in sheep, H2271 Cerebral blood flow

capillary flow heterogeneity, after blood exchange, H1833

dexmedetomidine and, H2547 epinephrine and, H1666

and glucose metabolism epinephrine and, H1666

epinephrine and, H1666 uncoupling after brain injury, H2859

neuronal nitric oxide synthase and, H1315

postischemic, alkalosis and, H2557 regional, basic fibroblast growth factor and, H1401

response to hypercapnia, neuronal nitric oxide synthase and, H559

Cerebral infarct

reduction, by basic fibroblast growth factor, H1401

Chaperonins

and mitochondrial biogenesis, H2983

Charybdotoxin

and arterial chaos, H1696 and myogenic response in mesenteric arteries, H2241, H2306

Chemokines

in immobilization of rolling neutrophils, H114

Chemoreceptors

in heart failure, very low frequency rhythms and, H438

Chemoreflexes

carotid, and 5-HT₃ receptors in nucleus of solitary tract, H1250 coronary, nicotine-evoked, somatic com-

ponent of, H827 muscle, latency of, H1981

Chloride currents

in cardiac hypertrophy, H2500 inward, sodium-independent, in cardio-

myocytes, H735 outwardly rectifying, in endocardial endothelial cells, H1770

swelling-induced, effects on atrial electrophysiology, H1904

Chloride ions

and endocardial endothelial cell resting membrane conductance, H1770

Chlorothiazide

and intracellular chloride in cardiomyocytes, H735

Cholesterol

blood/serum levels, see Hypercholesterolemia

dietary, and sodium pump function in cardiomyocytes, H1680

Circulation

cardiopulmonary, modeling, H1499 cerebral

calcium sensitivity, H2271

magnesium and, in newborn piglets, H511

collateral, response to serotonin, H2409 coronary, and myocardial water balance, H706

integrated regulation of, during dynamic exercise, H1157

peripheral, response to heat stress, aging and, H1609

pulmonary

adenosine infusion and, in sheep, H921

dipyridamole infusion and, in sheep, H921

norepinephrine release in, adenosine and, H1100

regional perfusion parameters, H1537

splanchnic

ischemia in, reflex response to, H791 regulation of, H99

systemic

adenosine infusion and, in sheep, H921

dipyridamole infusion and, in sheep, H921

Collagen

fiber orientation, in myocardial scar, functional implications of, H2123 myocardial, during progression of left ventricular hypertrophy, H2416

Complement

C5a, effects on isolated coronary arteries, H12

Congenital heart disease in transgenic mice, H2513

Congestive heart failure, see Heart failure

Coronary angioplasty

ischemia during, cardiac sympathetic response to, H2079

Coronary arteries

isolated, effects of C5a on, H12 smooth muscle, estrogen-induced relaxation of, via nitric oxide and cGMP, H2765

surgery, amino acids and, H1063 vasoreactivity, hypoxia-induced hyperpolarization and, H1462

Coronary artery disease

myocardial blood volume changes in, H567

Coronary blood flow

see also Coronary arteries cardiac contraction and, H1516 intramyocardial pressure and, H2320

Coronary vasculature

reactivity, ovarian steroid modulation of, H2645

ventricular contraction and, H2963

Coronary vasospasm drug-induced, calcium release mecha-

nism of, H2645 Corticotropin-releasing factor cardiac effects of, H2115

Cortisol

secretion, in lactate-induced panic attacks, H2630

Coxsackievirus B3

myocarditis, interstitial fibrin deposition in, captopril and, H211

C protein

phosphorylation, in phospholambanknockout mouse hearts, H785

Creatine kinase

cardiac, adaptation to altitude, H1690 isozymes, in trained heart, H409

Cremaster muscle

leukocyte rolling in, P-selectin and, in mice, H1725

Cromakalim

and coronary arterial diameter, in hypoxia, H1462

C-type natriuretic peptide autocrine, in arterial repair, H2919

Cyclopiazonic acid

and arterial chaos, H1696 Cytochrome a

myocardial, in mammalian heart, H769

Cytokines

and calcium current in ventricular mycocytes, H2591 and leukocyte rolling in arterioles,

H1725 and neonatal cardiomyocytes, H1937

D

Dexmedetomidine

and cerebral blood flow, H2547

Dextran

and skeletal muscle microvascular damage in ischemia-reperfusion, H1710

Diabetes mellitus

autonomic neuropathy in, and heartbeat variability, H1094

and contractile dysfunction in cardiomyocytes, H148, H159

erectile dysfunction in, H1960

non-insulin-dependent (NIDDM), intestinal flow-mediated regulation in.

rat model, erectile physiology in, H1960

Diaphragm

microcirculation, salbutamol-induced vasodilation in, H2173 microvascular flow in, during hemor-

rhagic hypotension, H272 2,5-Di-tert-butylhydroquinone

and cardiac muscle contractility in rats, H1001

DIDS

and intracellular chloride in cardiomyocytes, H735

Dihydropyridine receptors

and inotropic response to calcium, in hypoxic fetal sheep, H1196

1.25-Dihvdroxyvitamin D₃

regulation of cardiomyocyte proliferation and hypertrophy, H1751

4.4'-Diisothiocyanostilbene-2,2'-disulfonic acid, see DIDS

Dipyridamole

infusion, effects on pulmonary and systemic circulations, in sheep, H921

DNA

synthesis

in human endothelial cells, adenosine-stimulated, H1470 in injured myocardium, H220 nitric oxide and, H1342

Dogs

autonomic nervous system, nitric oxide and, H263

effects of BAY y 5959 in, H753

gracilis muscle, adenosine output from, in hypoxia, H318

contractility during coronary stenosis,

coronary ischemia-reperfusion injury in, leukocyte-mediated, attenuation of, H618

maximal oxidative phosphorylation capacity of, H769

regional myocardial function, bradykinin and, H1266

sinoatrial nodal parasympathectomy, and heart rate regulation, H2525 transient outward current in. H1 ventricular interactions in, H2869

heart failure model chamber and muscle function in,

H186

chronic opiate-receptor inhibition in,

myocardial infarct size in, acidosis during reperfusion and, H2071

subacute myocardial infarction period in, lidocaine effects on reentrant arrhythmias in, H299

Echocardiography

after reperfusion of anterior infarction,

assessment of left ventricular performance, H138

Doppler

fourth heart sound and, H1527 of pulmonary venous flow, H2453 of left ventricular wall stress-shortening, in mice, H1047

myocardial contrast, H567

Eicosanoids

synthesis, by endothelial cells, in hypoxia, H1426

Elastocalcinosis in rats, H2211

Electrodes

for myocardial repolarization/conduction velocity measurement, H1917

Electrophysiology

of bovine coronary resistance arteries, H1462

cardiac, H1, H107, H227, H1791, H1798, H1826

of exchange current, in cardiomyocytes, H2164

of heterogeneous syncytia, computer model of, H1838

of smooth muscle cells, in mesenteric arteries, H2241

Endocardium

endothelial cells, resting membrane conductance, H1770

Endothelial cells

see also Leukocytes; Neutrophils angiotensin II secretion in, H958

aortic, codistribution of marginal actin fibers and fibronectin in. H2188

apoptosis, nitric oxide and, H760 arachidonic acid metabolism in, hypoxia and, H1426

arterial, ATP-sensitive calcium channels in, H2507

basic fibroblast growth factor in, H958 endocardial

resting membrane conductance, H1770

stimulus-secretion coupling in, H1770 growth, nitric oxide and, H760

human, adenosine-stimulated DNA synthesis, H1470 inflammation, H2746

Endothelin receptors

ETA, and atrial natriuretic factor gene expression, H130

functional status of, in endotoxemia, in rats, H2353

Endothelins

binding, in hypoxic pulmonary vasculature, H669

coronary vasoconstriction with, H2054

effects on neonatal cardiomyocytes,

in endotoxemia, in rats, H2353 gene expression

in arteries, H2385

in endotoxemia, in rats, H2353 hemodynamic effects, in endotoxemic shock, H1239

and hepatic blood flow regulation after shock, H2736

pertussis toxin-sensitive gene activation by, in neonatal cardiomyocytes, H130

Endothelium

adaptation to exercise, H1070 and adenosine effects on adrenergic neurotransmission in pulmonary vasculature, H1100

and cerebral microvascular response to hypoxia, in neonatal pig, H1323

in coronary vasoconstriction with high arterial oxygen tension, H67

intracellular calcium in, nitric oxide synthase inhibition and, H176

leukocyte interaction with, see Leukocyte-endothelial cell adhesion and myogenic response in vascular smooth muscle, in hypercapnia,

H1419 nitric oxide synthase expression, in

ovine pregnancy, H1730 permeability, cGMP and, H91

transcytosis of small protein molecules,

vascular

barrier function, H1437 ischemia-reperfusion injury, H1986 permeability, H1560

and pulmonary distribution of iodoantipyrine, H2250

reactivity, gender differences in, H2577

and vasoreactivity in neonatal pulmonary arteries, chronic hypoxia and, H2436

venular, vasoactive function of, H2541 **Endothelium-derived constricting** factor

in skeletal muscle venules, H2541 Endothelium-derived hyperpolariz-

ing factor

in mesenteric arteries, H2306

Endothelium-derived relaxing factor see also Nitric oxide in skeletal muscle venules, H2541

and vasoconstriction in hypertensive lungs, H2616

Endotoxemia

acute, aminoguanidine in, H843 endothelin-1 in, in rats, H2353 hypertension in, endothelins and prostanoids in, H1239

Endotoxin

and cell volume, in cardiomyocytes, H2989

effects on myocardial adaptation and ischemic preconditioning, H2708

hypocontractility induced by, vascular smooth muscle cells on Matrigel as model for, H576

induction of nitric oxide synthase in cardiomyocytes, functional significance of, H35

in posttraumatic sepsis, H2219

Energy metabolism cardiac, peroxynitrite and, H1212 cellular, in hemorrhagic shock, ATPsensitive potassium channel inhibition and, H688

cerebral, epinephrine and, H1666 in hypertrophied heart, H1615 in postischemic skeletal muscle, ascorbate and, H83

Enkephalins

see also **Opioids** and blood pressure, H2885 and cardiac contractility, H2885

Epicardium

lymph pressure, and myocardial fluid filtration, H706

Epinephrine

and cerebral blood flow, H1666 and cerebral glucose metabolism, H1666

Erythrocytes

aggregation, and venous resistance, H1020

capillary flow, in chronic muscle ischemia, H2757

in cerebral microvasculature, H1833 flow, in choroid, quantification of, H1444

membrane lipid order, hyperbaric pressure and, H538

velocity, with muscle length changes, H2107

volume, in females, age-related decline in, effects of exercise on, H2534

β-Escin

and cerebrovascular calcium sensitivity, in sheep, H2271

Estrogens

and arteriolar myogenic tone, H1804 cardioprotective effects of, H2264, H2577, H2645

and coronary vascular smooth muscle cells, H1996

relaxation of coronary artery smooth muscle, via nitric oxide and cGMP, H2765

and resistance artery function, H2264

Exercise

cardiovascular indexes in mouse during, H1053 dynamic, hypoxia and, H2655

effects on age-related decline in blood volume, in females, H2534

heat acclimation with, and heart function with ischemia-reperfusion, H2085

vascular occlusion of muscle during, latency of muscle chemoreflex and, H1981

Exercise pressor reflex

AMPA receptors and, H2774 area postrema-induced inhibition of, H1650 in cats, H48

and latency of muscle chemoreflex, H1981

Exercise training

H1372

and cardiac autonomic tonus, gender differences in, in hypertensive rats, H1412

and cardiac function in older men, H995 and nitric oxide production, H1070 and ventricular properties, in canine model of congestive heart failure, Eye

retina, choroidal blood flow, in rats, H1444

 \mathbf{F}

Fatty acids

oxidation, in hypertrophied heart, H1615

Females

see also Gender differences age-related decline in blood volume, exercise effects on, H2534

Fibroblast growth factor

hasic

in cardiomyocytes and endothelial cells, H958 in experimental atherosclerosis, H613 protective effect, against focal ischemic injury, H1401

Fibronectin

and actin fibers, codistribution, in vascular system, H2188

Fibrosis

cardiac

with left ventricular hypertrophy, H2416

in myocarditis, captopril and, H211

FK506 binding protein

and ryanodine receptor structure, H597 Flow cytometry

in mesenteric microvasculature, H2584

Fluid resuscitation

for hemorrhagic shock, with oxygen vs. nonoxygen carriers, H525

Forskolin

and diaphragmatic microcirculation, H2173

Fos

expression, in ventrolateral medulla, during static muscle contraction, H48

Fura 2

fluorescence

of intracellular calcium vs. intracellular free zinc, H2095 measurements in isolated cardiac trabeculae, H1892

G

Gastrointestinal motility

and afferent activity during ischemia, H99

Gender differences

in arteriolar myogenic tone, H1804 in cardiac autonomic tonus, H1412 and nitric oxide effects on blood pressure variability, in rats, H632

in vascular adrenergic sensitivity, H1819

in vasomotor effects of oxidized low-density lipoproteins, H2577

Gene expression

AT₁ receptor, in hypercholesterolemia, H2701

atrial natriuretic peptide, ET_A receptors and, H130

endothelin-1

in arteries, H2385

in endotoxemia, in rats, H2353 nitric oxide synthase, endothelial, in

ovine pregnancy, H1730 protein kinase C, in developing heart, H1636 protein kinase C- α , in adult rat ventricular myocytes, H2485

sarcoplasmic reticulum calcium ATPase, during progression of left ventricular hypertrophy, H2416 SERCA2, hormonal modulation of, H1876

Gene transfer

adenoviral vector for, intrapericardial administration of, H310

Genistein

and pulmonary vasoreactivity to serotonin, H740

Glibenclamide

and ATP-sensitive calcium channels in aortic endothelial cells, H2507 and coronary arterial diameter, in

hypoxia, H1462

effects, in hemorrhagic shock, H688 kinetics, in rat heart, H2607

and memory of ischemic preconditioning, in dogs, H334

microvascular response to, in diaphragm, in hemorrhagic hypotension, H272

Glucose

metabolism, cerebral, and blood flow, uncoupling after brain injury, H2859

oxidation, in hypertrophied heart, H1615

uptake

regional myocardial, positron emission tomography of, H343 in stunned myocardium, H1122

Glucose transporters

and glucose uptake in stunned myocardium, H1122

Glutamate

myocardial concentration of, in coronary artery surgery, H1063

Glycolysis

and calcium currents in vascular smooth muscle, H987 in hypertrophied heart, H1615 myocardial, during coronary stenosis, H2195

G protein-coupled receptor kinase and cardiac function, studies in transgenic mice, H1553

G proteins

G_i, regulation of, H1672

 $G_s\alpha$, cardiac overexpression, cardiomyopathy induced by, H585

potassium channels coupled to (GIRK1/ GIRK4), ATP-dependent regulation of, H195

Gracilis muscle

adenosine output from, in hypoxia, in dogs, H318

Growth factors, see Insulin-like growth factor-I; Transforming growth factor; Vascular endothelial growth factor

GTP-binding proteins, see G proteins Guanosine 3',5'-cyclic monophosphate

and coronary artery relaxation, H2765 and endothelial permeability, H91 generation, in heart failure, H2139 in pulmonary arteries, in newborn, chronic hypoxia and, H2436

Guanosine triphosphate-binding proteins, see G proteins

Guinea pigs

cardiac delayed rectifier potassium current, effects of intracellular magnesium on, H1292

heart

adenosine formation in, inorganic phosphate and, H913 working, adenosine and AMP in,

H

Hamster

cheek pouch

arteriolar vasoreactivity in, nicotine and, H2337

conducted vasodilation in, pressure effects on, H2895

hemorrhagic shock in, fluid resuscitation for, with oxygen vs. nonoxygen carriers, H525

retractor muscle, oxygen diffusion in, temperature effect on, H1106

Handgrip

and R-R intervals in atrial fibrillation, H1643

Heart

see also Ischemia; Ischemia-reperfusion; Myocardium

aging, mitochondrial phenotypes in, H2983

atrial pacing site, and phasic vagal stimulation, effects on atrioventricular conduction time, H2289

atrium, depolarization, swelling-induced chloride currents and, H1904 autonomic control, and blood pressure

variability responses to psychological challenges, H2227

capacitive function of, H553

conduction system, lidocaine effects on, H299

contractility

during coronary stenosis, H2195 in dogs, H138

enkephalins and, H2885

evaluation in rat, in situ, H2671

heat acclimation with exercise and, H2085

and ischemic preconditioning, H544 peroxynitrite and, H1212 and SERCA2 expression, H1876 urocortin and, in sheep, H2115

contraction and coronary flow, H1516

and myocardial water balance, H706 denervation, and control of pacemaker tissues, H2525

development

protein kinase C isoform expression during, H1636

diastolic function

cardiac memory of, H1952 and pulmonary venous flow, H2453

end-systolic pressure-volume relationship

in dogs, H138 in rat, H2671

in genetically engineered mice with altered adrenergic receptor signaling, H1553

measurement of, in intact closedchest mouse, H1137

in older men, exercise training and, H995

growth

1,25-dihydroxyvitamin D3 and, H1751 isovolumic function during, H501

hyperpolarization-activated inward current, blockers, effects within sinoatrial node, H2782

hypertrophy, see Cardiac hypertrophy; Heart ventricles

innervation of, H2289

isolated, myocardial adaptation and ischemic preconditioning in, H2708

isovolumic function, in hearts of different sizes, comparison of, H501

laminar structure of, modeling of, H2466

magnetic resonance imaging of, in mice, H2394

mammalian, maximal oxidative phosphorylation capacity of, H769

in overstretched ventricle, H2299 pressure-volume relationship in, H2869

metabolic recovery, with ischemiareperfusion, heat acclimation with exercise and, H2085

neural stunning, adenosine receptor subtypes in, H25

pacemaker activity, H1952 in atrioventricular node, H2815 control of, by intrinsic cardiac neurons, H2525

response to carotid baroreceptor afferents, H2040

in sinoatrial node, H2793 papillary muscle, intramyocardial pressure in, H2320

period variability, and blood pressure variability responses to psychological challenges, H2227

potassium channels, human hKv1.5, block, by β-subunit hKvβ1.2, H2932

pressure-volume area, in rat, H2671 pressure-volume loop, in rat, H2671 Purkinje fibers, memory and complex

dynamics in, H1826 sympathetic nerve terminal abnormalities, assessment of, H1182

sympathovagal balance of, in spinal cord injury, H835 systolic function, and pulmonary

venous flow, H2453 trained, function and bioenergetics, in

rat. H409

volume, effects on mean right atrial pressure, H553

Heart failure

adenylyl cyclase activity in, H884 cardiomyocyte apoptosis during transition to, in spontaneously hypertensive rats, H2313

chemoreceptors in, very low frequency rhythms and, H438

chronic, rat model, H722

chronic treatment of with angiotensin II antagonist in, H2139

exercise training in, H1372

experimental, chronic opiate-receptor inhibition in, H478

human, ATP-sensitive potassium channel alterations in. H1656

magnetic resonance imaging in, in mice, H2394

model, stress-strain analysis in, H186 pathogenesis of

with left ventricular hypertrophy, H2416

sympathetic drive in, H585 rabbit model, myosin heavy chain syn-thesis in, H969

rat model, H722 right-left heart interaction with, modeling, H1499

in transgenic mice, H2513

Heart rate see also Arrhythmias

arterial and cardiopulmonary baroreflex control of, H2343

autonomic regulation of, H1643 exercise effects on, gender differences in, in hypertensive rats, H1412

hypothyroidism and, H894

regulation

dynamic vagosympathetic interaction and, H2180 intrinsic cardiac neurons and, H2525

during muscle contraction, H2774 variability, H1866

in apnea, in humans, H123

diabetic autonomic neuropathy and, H1094 fractal nature of, mental stress and,

H1113 in lactate-induced panic attacks,

H2630 nonlinear dynamics, H1094

response to mental stress, H1113

Heart sounds

fourth, and atrial systolic transmitral flow deceleration, H1527

Heart valves

disease, right-left heart interaction with, modeling, H1499 function, and pulmonary venous flow, H2453

Heart ventricles

adenylyl cyclase activity, in heart failure, H884

anisotropic repolarization in, H107 cells, see Cardiomyocytes chloride accumulation in, H735

compliance, with passive overstretch, H2299

contractility

evaluation in rat heart in situ, H2671 left ventricular, mechanoenergetic evaluation of, H2671

contraction

see also Arrhythmias; Heart rate isobaric, and coronary blood vessels, H2963

isovolumic, and coronary blood vessels, H2963

electrical heterogeneity in, H1078 function

during ejection, H469

and exercise training, in canine model of congestive heart failure, H1372 in heart failure model, H186

in mice, determination in vivo, H1047 heterogeneous syncytia, electrophysiology, computer model of, H1838

hypertrophy and function after reperfusion, H1205

interactions

dynamic model of, H2942 and right ventricular volume, H2869 volume dependence of, H2869

interdependence of, H2869

intraventricular pressure, measurement of, in intact mouse, H1137 isovolumic relaxation time, H1952 left

compliance, H2299

dysfunction, rat model, H722 filling, H1952

hypertrophy, see Cardiac hypertrophy, left ventricular

magnetic resonance imaging of, in mice, H2394

overstretched, biaxial mechanics of, H2299

performance, echocardiographic assessment of, H138

wall stress-shortening, in mice, determination in vivo, H1047

pressure-volume relationship in, H2671, H2869, H2942

remodeling

after anterior infarction, H1205 in heart failure model, H186 in rats, H517

response to atrial fibrillation, H1643 right, hypertrophy, see Cardiac hyper-

trophy, right ventricular structure of, model of, H2466 ventricular pressure wave, first deriva-

tive of, H1137 Heat acclimation

with exercise, and heart function with ischemia-reperfusion, H2085

Heat stress

baroreflex function during, H776 cutaneous vascular conductance with, aging and, H1609

HEK-293 cells

L-type calcium channel expression in, H1372

Hematocrit

microvascular, in rats, H1444

Hemodynamics

and adenosine, interactions in coronary microcirculation, H1571 cardiopulmonary, modeling, H1499 in endotoxemic shock, H1239 hemorrhage-related changes in, tumor necrosis factor and, H2219

in hemorrhagic shock, ATP-sensitive potassium channel inhibition and, H688

with left ventricular hypertrophy, H2416

microvascular diameter variability and, H2716

in pseudopregnancy, in rats, H695 and pulmonary venous flow, H2453 S-nitrosocysteine and, in rats, H2361 and stress fiber distribution in vascular system, H2188

Hemoglobin

cell-free, oxygen-carrying capacity, studies with oxygen-15, H2492

liposome-encapsulated, oxygen-carrying capacity, studies with oxygen-15, H2492

ultrapurified polymerized bovine, in cerebral microvasculature, H1833 Hemolysis

bleeding time prolongation in, nitric oxide-mediated, H2875

Hemorrhage

see also Shock, hemorrhagic

hypotension due to, diaphragmatic microvascular flow in, H272 response to, central nitric oxide and, in

rats, H2282 Histamine

membrane currents evoked by, in rabbit basilar artery, H638

Hormones

secretion, in lactate-induced panic attacks, H2630

Hydrogen peroxide

pulmonary artery contractions induced by, cellular mechanisms of, H2686

Hydrogen-potassium ATPase

vascular smooth muscle, molecular evidence for, H869

Hyperbaric pressure

effects on erythrocyte membrane lipid order, H538

Hypercapnia

cerebral blood flow response to, neuronal nitric oxide synthase and, H559 and myogenic response, in diaphragmatic arterioles, H1419

Hypercholesterolemia

AT₁ receptor expression in, H2701 endothelium-dependent responses of aorta in, H613

and sodium pump function in cardiomyocytes, H1680

Hyperemia

cerebral cortical, during cortical spreading depression, neuronal nitric oxide and, H1315

Hyperglycemia

intestinal flow-mediated regulation in,

Hypertension

angiotensin II-induced, neonatal sympathectomy and, H648

baroreceptor sensitivity assessment in, impulse response function for,

calcium-dependent potassium currents during, H1287

and cardiac adaptation to hypoxia, H1690

in endotoxemic shock, endothelins and prostanoids in, H1239

hypercholesterolemia and, H2701 low-renin, angiotensin-converting

enzyme inhibition in, H679 mineralocorticoid action and, in rats,

H1454 rat model

endothelium-dependent vasoconstriction in, H493

exercise effects on cardiac autonomic tonus, gender differences in, H1412

regional vascular mechanics in, threedimensional ultrasound of, H425 vascular and fibrotic changes in, H2131

Hyperthermia, see Heat stress

Hyperthyroidism

cardiac function in, measurement of, in intact mouse, H1137

Hypochlorous acid

and intracellular free zinc in cardiomyocytes, H2095

Hypotension

hemorrhagic, diaphragmatic microvascular flow in, H272

Hypothyroidism

cardiac function in, measurement of, in intact mouse, H1137 and central serotonergic control, H894

Hypovolemia

adaptation to, central nitric oxide and, in rats, H2282

Hypoxia

see also Ischemia-reperfusion

adenosine output from muscle in, intracellular lactate and, H318 and arachidonic acid metabolism in endothelial cells, H1426 cardiac enzymatic adaptation to, H1690 cerebral, prostanoids and, H418 and cerebral vasodilation, in neonatal pigs, H1323

chronic

development of pulmonary hypertension in, serotonin and, H1173 in newborn intrapulmonary arteries, H2436

and coronary artery vasoreactivity, H1462

and dynamic exercise, H2655

effects, on ionic homeostasis in ventricular myocytes, H2679

hypobaric, acclimatization to, H1690 myocardial intracellular pH regulation during, in vivo, H2664 and myogenic reactivity, H1945

Iberiotoxin

basilar artery response to, H256, H1287

Hoprost

vasodilatory response to, in small arteries, H1147

Imaging

for assessment of regional cerebral blood flow and glucose metabolism, H2859

functional, of regional perfusion, H1537 three-dimensional ultrasound, of regional vascular mechanics, H425

Imidaprilat

in low-renin hypertension, H679

Impulse response function

for assessment of baroreceptor sensitivity, H1866

Inflammation

neutrophil recruitment in, and recovery from lung injury, H279 vascular endothelial growth factor in,

platelet-activating factor and,

Inflammatory mediators

in myocardial ischemia-reperfusion injury, H2327

Inorganic phosphate

and adenosine formation in isolated guinea pig hearts, H913 and myocardial contractile force during early ischemia, H1333

Inositol 1,4,5-trisphosphate

and sarcoplasmic reticulum expression in cardiomyocytes, H2639

Inositol 1,4,5-trisphosphate receptors signal transduction by, H597

Inotropism

of extracellular calcium, in hypoxic fetal sheep, H1196

Insulin

and myocardial energy metabolism,

Insulin-like growth factor-I

effects, on cardiac potassium channels, H2599

Integrins

in immobilization of rolling neutrophils,

and vasoreactivity in vascular smooth muscle, H2065

Intercellular adhesion molecule in mesenteric microvasculature, H2584 Interleukins

IL-1B

and calcium current in ventricular mycocytes, H2591

and leukocyte adhesion in arterioles, H1725

neutrophil-cardiomyocyte adhesion induced by, inhibition by nitric oxide, H2807

IL-8, and rapid immobilization of rolling neutrophils, H114

and neonatal cardiomyocytes, H1937

Intestine

flow-mediated regulation in, impairment, by diabetes and hyperglycemia, H728

Intramyocardial pressure

in rat papillary muscle, H2320

Intrauterine growth retardation oxygen-derived free radicals in, in rats, H701

Iodoantipyrine

pulmonary distribution of, H2250 Ion channels

α-adrenergic modulation of, in Xenopus oocytes, H1275

human atrial, H227

selectivity, in canine heart, H1

Iontophoresis

in isolated cardiac trabeculae, H1892

Ischemia

abdominal

afferent activity during, summation

reflex response to, H791

sympathetic afferent activity during, H99

with celiac artery occlusion, reflex response to, H791

cerebral

recovery from, alkalosis and, H2557 vascular injury in, leukocyte adherence and, H2622

chronic, microcirculation in, H2757 latency of muscle chemoreflex and, H1981

myocardial, see Myocardial ischemia with superior mesenteric artery occlusion, reflex response to, H791

Ischemia-reperfusion

see also Hyperemia; Myocardial ischemia

cardiac neural stunning in, adenosine receptor subtypes and, H25

cardiac recovery after, and ischemic preconditioning, H2708

coronary injury in, leukocyte-mediated, attenuation of, H618

SUBJECT INDEX TO VOLUME 41

heart function with, heat acclimation with exercise and, H2085 injury, in skeletal muscle, H2154 intrauterine growth retardation induced by, in rats, H701

microvascular damage in, H2976 in skeletal muscle, effects of dextran on, H1710

myocardial injury in neutrophils in, H1302

peroxynitrite formation in, H2327 α-PBN in, H1986

in skeletal muscle, ascorbate and, H83

Ischemic preconditioning

glibenclamide-induced blockade of, in rat hearts, H2607

and intracellular pH, study in isolated rat heart, H544

isoproterenol and, H927

memory of, ATP-sensitive potassium channels and, in dogs, H334 myocardial adaptation and, H2708

Isoflurane

and endothelium-dependent vasodilation, H290

Isoproterenol

and diaphragmatic microcirculation, H2173

effects, on vascular smooth muscle. H244

ischemic preconditioning and, H927 Ito, see Transient outward current

Kainic acid

area postrema lesion, and exercise-pressor reflex, H1650

Ketanserin

and collateral vessel response to serotonin, H2409

and pulmonary vasoreactivity to serotonin, H740

Kidney

see also Renal sympathetic nerve activity

blood flow, regulation, adenosine in, H1231

function, in congestive heart failure, H2139

mineralocorticoid responsiveness in, in rats, H1454

pulmorenal reflexes and, H979

descending, adenosine receptor sub-

type detection in, H1231 hydraulic and diffusional permeabilities of, H392

vasoconstriction, agonist-induced, during hypoxia, H1945

Kinins

in acute effects of angiotensin-converting enzyme inhibitors, H679

T-kinin, vasodilator response to, in cats, H1491

Knockout mice

endothelial nitric oxide synthase deficient, H1401

phospholamban

cardiac cAMP and protein phosphorylation in, β-adrenergic regulation

cardiac L-type calcium channel function in, H606

Krogh's diffusion coefficient

for oxygen, H1106

Lactate

in abdominal ischemia, H791 intracellular, and adenosine output from muscle in hypoxia, H318

Laser-Doppler flowmetry

in diaphragmatic microcirculation, H2173

Leukocyte-endothelial cell adhesion

in ischemia-reperfusion, H1710, H2976 attenuation of, H618

in mesenteric microvasculature, H2584 Leukocytes

activation, in chronic muscle ischemia, H2757

adherence

see also Leukocyte-endothelial cell adhesion

in chronic muscle ischemia, H2757 in mesenteric microvasculature, H2584

and vascular injury in cerebral ischemia, H2622

adhesion, in arterioles, H1725 rolling

cytokine-induced, in arterioles, H1725

P-selectin and, H1725

selectin-mediated, TNF-α-induced, in arterioles, H1391

Levcromakalim

and ATP-sensitive calcium channels in aortic endothelial cells, H2507

effects on reentrant arrhythmias, in subacute myocardial infarction. H299

Lingual artery

neurogenic dilatation of, H1582

Lipids

in ischemia-reperfusion-induced dysfunction, H2976

liposomes, growth in arterial intima, modeling of, H1033

membrane, and sodium pump function in cardiomyocytes, H1680

pulmonary, and pulmonary distribution of iodoantipyrine, H2250

Lipopolysaccharide, see Endotoxin Liposomes

lipid, growth in arterial intima, modeling of, H1033

blood flow, regulation, after shock, H2736

microcirculatory pressure gradients, H2826

L-NMMA, see NG-Monomethyl-L-arginine

Losartan

and baroreflex modulation by endogenous angiotensins, H2204 and cardiovascular remodeling, H2131

Low-density lipoproteins

oxidized, vasomotor effects of, gender differences in, H2577

LPS (lipopolysaccharide), see Endotoxin

Lung

blood flow, regional perfusion parameters, H1537

fetal, purine nucleotides and, H2377 indicator-dilution studies in, H1537, H2250

water content, in rats, H517

Lung injury

recovery from, neutrophils in, H279

Lysophosphatidylcholine

and calcium signaling, in macrophages,

production, in cardiomyocytes, thrombin activation of PLA2 and, H1972 in rat microvasculature, H2584

Macromolecular transport in arterial intima, H1560

Macrophages

lysophosphatidylcholine transduction of calcium signaling in, via plateletactivating factor receptor, H17

Magnesium ions

cerebral vasodilator effect, in newborn piglets, H511

intracellular, effects on cardiac delayed rectifier potassium current, H1292

Magnetic resonance imaging

cine phase-contrast measurements, of renal artery blood flow, H2477 gated, of murine heart, H2394

Magnetic resonance spectroscopy of cerebral blood flow, H2557

Mast cells

and arteriolar constriction in skeletal muscle during vascular stunning, H2154

degranulation, in ischemia-reperfusion, H2976

Mathematical modeling

of closed-loop cardiovascular control, H448

of flow-induced dilation in coronary microvasculature, H1571

of laminar structure of heart, H2466 and myocardial repolarization/conduction velocity measurement, H1917

of pulmonary distribution of iodoantipyrine, H2250

of pulmonary venous flow, H2453 of relationship of fourth heart sound and Doppler A wave, H1527 of right-left heart interaction, H1499 of sinoatrial node cell, H1759 of ventricular interaction, H2942

Medroxyprogesterone

and coronary vascular muscle reactivity, H2645

Medulla oblongata

AMPA receptors, and exercise-pressor reflex, H2774

ventrolateral, c-Fos expression during static muscle contraction, H48

Membrane potential

smooth muscle, in mesenteric arteries, H2241

Memory

cardiac

of diastolic function, H1952 of ischemic preconditioning, ATP-sensitive potassium channels and, H334

and Purkinje fibers, H1826

Messenger RNA

adenosine receptor subtype, detection in outer medullary descending vasa recta, H1231

Metabolism

during muscle contraction, capillary blood flow and, H2693

Methiothepin

and collateral vessel response to serotonin, H2409

Methodologies

for cardiac dialysis, H1182

for comparison of isovolumic cardiac function, in hearts of different sizes, H501

for confocal imaging of calcium waves in whole heart, H236

for Doppler flowmetry

in postischemic reperfusion of vascular endothelium, H1986

in renal vasculature, H1945

for estimation of reflection coefficients in pulmonary microvasculature, H382

for fluorescence anisotropy studies, in erythrocytes, H538

for image processing, in cerebral cerebral blood flow and glucose metabolism assessment, H2859

for immunohistochemistry, in mesenteric microvasculature, H2584

for indicator dilution in cardiac output estimation, H2004

in lung, H1537, H2250 for intravital microscopy

in mesenteric microvasculature, H2584

in muscle, H2107

in skeletal muscle, H1710

for laser diffraction, in isolated cardiac trabeculae, H1892

for laser-Doppler flowmetry, H950 in cerebral circulation, H559

in diaphragm, in hemorrhagic hypotension, H272

in diaphragmatic microcirculation,

for laser scanning confocal microscopy, in pressure-overload hypertrophy, H2425

for lymphatic protein washdown technique, H382

for measurement of cardiac function in intact mouse, H1137

for microdialysis, in pigs, H1857 for microperfusion, of outer medullary

descending vasa recta, H392

myocardial repolarization/conduction velocity measurement, H1917

for phosphorescence quenching study of venous oxygen tension gradients, H2233

for quantification of choroidal blood flow in rats, H1444

for quantitative immunocytochemistry, H806

for resonance energy transfer studies, in erythrocytes, H538 for venous occlusion plethysmography,

N-Methyl-D-aspartate receptors

in postischemic cerebral blood flow, H2557

Metolazone

H748

and intracellular chloride in cardiomyocytes, H735

Mice

cardiovascular indexes in, H1053 cremaster muscle, leukocyte rolling in, P-selectin and, H1725

gene knockout, see Knockout mice heart

DNA synthesis in, H220

genetic manipulations and modification of, H2513

L-type calcium channels, phospholamban and, H606 magnetic resonance imaging of.

H2394

myocardial regeneration in, H220 intact, measurement of cardiac function in, H1137

left ventricular wall stress-shortening in, determination in vivo, H1047

transgenic, see Transgenic mice

Microcirculation

cerebral

blood substitute and, H1833 regulation, prostanoids and, H418 in chronic muscle ischemia, H2757

coronary

autoregulation, H567 in coronary artery disease, H567

hepatic, pressure gradients along, H2826

rat diaphragmatic, salbutamol-induced vasodilation in, H2173

regulation, flow-dependent dilation and, H714

in skeletal muscle, during vascular stunning, H2154

venous, oxygen tension gradients in, H2233

Microvasculature

see also Arterioles; Capillaries; Venules

coronary

adenosine and flow-induced dilation in, H1571

myogenic response, heterogeneity of, H1571

diameter variability, and flow resistance, H2716

ischemia-reperfusion-induced dysfunction in, H2976

ischemia-reperfusion injury, dextran and, H1710

mesenteric, lysophosphatidylcholine in, H2584

permeability

estimation of, H382

myosin light chain phosphorylation and, H1437

nitric oxide synthase inhibition and,

pressure drop, in vitro vs. in vivo, H2716

pulmonary, reflection coefficients, estimation of, H382 structure and function, muscle length

changes and, H2107 Mineralocorticoids

resistance to, in Wistar-Furth rats, H1454

Mitochondria

cardiac

biogenesis, H2983

protein import into, aging and, H2983 respiration, in mammalian heart, H769

Mitral valve

regurgitation

and pulmonary venous flow, H2453 right-left heart interaction with, modeling, H1499

stenosis, right-left heart interaction with, modeling, H1499

Modeling in physiology

of arterial and cardiopulmonary baroreflex control of heart rate, H2343

of cardiac contraction and coronary flow, H1516

of closed-loop cardiovascular control, H448

computer model, of electrophysiological instability in heterogeneous ventricular syncytia, H1838

of coronary vasoconstriction, H2054 dynamic, of ventricular interaction and pericardial influence, H2942

fiber matrix model, for filtration in artery wall with compressible intima, H2023

finite-element, of ventricular contraction and coronary blood vessels, H2963

finite element model, of laminar structure of heart, H2466

Hodgkin-Huxley inactivation models, H2013

inactivation models, and state-specific drug-channel interaction, H2013 indicator-dilution dispersion models

indicator-dilution dispersion models and cardiac output computing methods, H2004

for pulmonary blood flow, H1537, H2250

of laminar structure of heart, H2466 of lipid liposome growth in arterial intima, H1033

of open channel block of human heart hKv1.5, H2932

partially coupled inactivation models, H2013

of phase dependencies of human baroreceptor reflex, H2040

of pulmonary venous flow, H2453 of regional perfusion parameters, from pulmonary microfocal angiograms,

of relationship of fourth heart sound and Doppler A wave, H1527 of right-left heart interaction, H1499

of ventricular contraction and coronary blood vessels, H2963 N^G-Monomethyl-L-arginine

and nitric oxide-mediated vasodilation, in human pregnancy, H748 3-Morpholinosydonimine-N-ethylcarbamide

pulmonary vasodilator responses to, inhalational anesthesia and, H290

Multiple organ injury

hemorrhage-related, tumor necrosis factor and, H2219

Muscarinic receptors

M₂, β-blockade and transregulation of, H1672

Muscle, cardiac

see also Cardiomyocytes; Heart, mechanics

anoxic, cytosolic calcium, sodium, and pH in, H2679

contractility, 2,5-di-tert-butylhydroquinone and, H1001 ionic homeostasis in, in anoxia, H2679 pressure-flow relations in, in diastole and systole, modeling, H1516

Muscle, skeletal

adenosine output from, in hypoxia, intracellular lactate and, H318 arteriolar responses to extracellular ATP in, H1886

arterioles, reactivity, effect of chronic myocardial infarction on, H2403 chemoreflex latency, H1981

contraction

capillary flow during, H2693 metabolism during, capillary blood flow and, H2693

static, cardiovascular responses to, ventrolateral medulla and, H48 ischemia, microcirculation in, H2757 length changes, and microvascular

structure and function, H2107 metabolism, in perfused rat hindlimb,

vascular α_1 -adrenoceptor control of, H2146 microvascular damage in ischemia-

reperfusion, dextran and, H1710 small arteries, developing myogenic contraction in, cytosolic calcium and protein kinase C in. H1165

vascular stunning, arteriolar constriction in, H2154

vasculature, sympathetic vasodilation, neurogenically derived nitrosyl factors and, H2369

venous resistance in, erythrocyte aggregation and, H1020

Muscle, smooth

β-adrenergic stimulation of, redistribution of intracellular calcium stores after, H244

coronary artery, estrogen-induced relaxation of, via nitric oxide and cGMP, H2765

vascular

calcium currents, regulation by intracellular ATP, H814

calcium currents in, dependence on glycolysis, H987

coronary, effects of estrogen on, H1996

developing myogenic contraction in, cytosolic calcium and protein kinase C in, H1165

histamine-evoked membrane currents in, H638

hydrogen peroxide-induced contractions, cellular mechanisms of, H2686

hydrogen-potassium ATPase, molecular evidence for, H869 on Matrigel, H576

mineralocorticoid responsiveness in, in rats, H1454

myogenic response, hypoxia and, H1462

myogenic response in, hypercapnia and, H1419

in neonatal pulmonary arteries, chronic hypoxia and, H2436 protein tyrosine phosphatase activity in, nitric oxide and, H1342

Myocardial infarct/infarction

anterior, ventricular hypertrophy and function during healing of, H1205 biomechanics of, H2123 coronary endothelial injury in, attenuation of, H618

differential responses of right and left ventricles in, H884

effect on reactivity of skeletal muscle arterioles, H2403 healing, functional implications of,

H2123 and myofilament calcium sensitivity, H360

rat model, H722

size

acidosis during reperfusion and, H2071

and memory of ischemic preconditioning, H334 reduction, with R-75231, H1857

Myocardial ischemia

see also Ischemia-reperfusion; Myocardium, stunning

augmentation of interstitial fluid adenosine before, cardioprotective effects, H1857

bioenergetics in, in pigs, H343 cardiac sympathetic response to, H2079 lysophosphatidylcholine accumulation in, H1972

myocardial contractile force during, H1333

phosphoenergetics during, H2563

Myocarditis

interstitial fibrin deposition in, captopril and, H211

Myocardium

adaptation delayed, H2708

and ischemic preconditioning, H2708 anterior and posterior left ventricular

sarcomere lengths, during ejection, H469

blood flow

positron emission tomography of, H343

tracers, rubidium and thallium as, H1480

blood volume, changes, with graded coronary stenosis, H567

contractile force, and inorganic phosphate, during early ischemia, H1333

contractility

activator calcium and, H1196 and adrenergic signaling, in transgenic mice, H1553

angiotensin II and, H1131 β-blockade and, H1672

during coronary stenosis, H2195 fibrous laminar, modeling of, H2466

fluid filtration, epicardial lymph pressure and, H706

function

during hypoxia, in vivo, H2664 measurement of, in intact closedchest mouse, H1137

hibernation, H2563 bioenergetics in, H343

model, H186

short-term model of, H343 intracellular pH regulation during

hypoxia, in vivo, H2664

ischemia-reperfusion injury, peroxynitrite formation in, H2327 metabolism, during coronary stenosis,

H2195 oxygen consumption, in heart failure

phosphoenergetics, open-system kinetics of, H2563

regeneration of, H220

regional function, bradykinin and, H1266

relaxation, in left ventricular hypertrophy, H2416

scar structure, functional implications of, H2123

softening, with ventricular overloading, H2299

stiffness, H2299

structure-function relationships, H2123 stunning

glucose uptake in, H1122 peroxynitrite formation in, H2327

Myocytes

cardiac, see Cardiomyocytes ventricular, see Cardiomyocytes

Myosin

cardiac, adaptation to altitude, H1690 isoenzymes, myocardial infarction and, H360

myocardial, during progression of left ventricular hypertrophy, H2416

Myosin heavy chain

synthesis, in rabbit model of heart failure, H969

Myosin light chain

phosphorylation, and venular permeability, H1437

N

Naltrexone

chronic administration of, in canine heart failure model, H478

Neurons

cardiac, control of pacemaker tissues, H2525

norepinephrine transport, nitric oxide and. H875

Neutrophils

adhesion to cytokine-activated cardiomyocytes, inhibition by nitric oxide, H2807

aging

kinetics, H401

L-selectin expression and, H401 circulating, apoptosis in, H2852

L-selectin stimulation of, and calcium signaling via tyrosine kinase, H1302

in pulmonary vascular injury and recovery, H279

release from bone marrow, L-selectin and, H1717

rolling, rapid immobilization of, H114

Newborn

cardiac sinoatrial node, hyperpolarization-activated current, H1549

hypoxic pulmonary hypertension in, H669 intrapulmonary artery relaxation,

chronic hypoxia and, H2436 Nicotine

and endothelium-dependent arteriolar dilatation in vivo, H2337

intrapericardial, viscerosomatic reflex evoked by, H827

and neurogenic dilatation in lingual artery, H1582

Nitric oxide

see also Endothelium-derived relaxing factor

antimitogenesis induced by, H1342 and arteriolar response to extracellular ATP, H1886

in autocrine control of endothelial cells, H760

and bleeding prolongation in hemolysis, H2875

cell cycle effects, in smooth muscle, H1810

central, and adaptation to hypovolemia, in rats, H2282

in central baroreflex regulation of sympathetic nerve activity, H2446

and coronary artery relaxation, H2765 donors, inhibition of neutrophil-cardiomyocyte adhesion, H2807

endogenous, and blood pressure variability, H632

formation

in central nervous system, in rats, H2361

endotoxin-induced, in vascular smooth muscle cells, H576

in myocardial ischemia-reperfusion injury, H2327

and hepatic blood flow regulation after shock, H2736

and hypoxic arterial vasodilation, H1785

inhalation, continuous, and pulmonary hypertension, H517

inhibition of neutrophil adhesion to cytokine-activated cardiomyocytes, H2807

modulation of autonomic effects, in open-chest dogs, H263

and neurogenic dilatation in lingual artery, H1582 neuronal, and cortical spreading de-

pression, H1315 neuronal NOS-derived, permissive role

in hypercapnia, H559 and norepinephrine release in mesen-

teric arteries, H207 and potassium channels, in basilar artery, H256

production, exercise training and, H1070 and protein tyrosine phosphatase activity, H1342

pulmonary artery relaxation induced by, potassium channels and, H904 release

estrogen-induced, H1804, H2264 gender differences in, H1804, H2577

in salbutamol-induced vasodilation, in rat diaphragmatic microcirculation, H2173

in sustained conducted vasodilation, H1364

and uptake-1-mediated norepinephrine transport, H875

and vasoactive effects of basic fibroblast growth factor, H1401

and vasoconstriction in hypertensive lungs, H2616

vasodilatory response to see also Endothelium-derived

relaxing factor

in human pregnancy, H748 and vasoreactivity in neonatal pulmonary arteries, chronic hypoxia and, H2436 and venular response to acetylcholine, H2541

Nitric oxide synthase

endothelial

knockout mice, H1401

upregulation, in pulmonary hypertension, H806

expression, endothelial, in ovine pregnancy, H1730

inducible, cardiac, functional significance of, H35

inhibition

by aminoguanidine, effects in acute endotoxemia, H843

and microvessel permeability, H176 and neurogenic dilatation in lingual artery, H1582

and neutrophil adhesion to cytokineactivated cardiomyocytes, H2807 neuronal, and cerebral blood flow re-

sponse to hypercapnia, H559
7-Nitroindazole

effects on sympathetic vasodilation in rat hindlimb, H2369

Nω-Nitro-L-arginine

and cerebral blood flow, H1315 and diaphragmatic microcirculation, H2173

intracerebroventricular administration of, effects on adaptation to hypovolemia, in rats, H2282

and vasoconstriction in hypertensive lungs, H2616

NG-Nitro-L-arginine

and collateral vessel response to serotonin, H2409

and neurogenic dilatation in lingual artery, H1582

Nº-Nitro-L-arginine methyl ester and bleeding time in hemolysis, H2875 and hepatic blood flow regulation after shock, H2736

N^G-Nitro-L-arginine methyl ester chronic hypertension model using, H1987

S-Nitrosocysteine

in central nervous system, stereoselective recognition sites for, H2361

S-Nitrosothiols

and neuronal norepinephrine transport, H875

Nitrosyl factors

neurogenically derived hemodynamic effects, H2361 and sympathetic vasodilation, H2369 Nitroxidergic nerves

and lingual artery innervation, H1582 Nonadrenergic noncholinergic

nerves

and lingual artery innervation, H1582

Norepinephrine

cardiac spillover, H2079

constrictor response to, in mesenteric arteries, vasopressin and, H1087

disposition at cardiac sympathetic nerve terminals, assessment of, H1182

and myogenic response in mesenteric small arteries, H2241

neuronal transport, nitric oxide and,

and nitric oxide-mediated vasodilation, in human pregnancy, H748

Norepinephrine (continued)

release

in mesenteric arteries, nitric oxide and, H207

in pulmonary circulation, adenosine and, H1100 and sarcoplasmic reticulum expression

in cardiomyocytes, H2639 and SERCA2 expression in cardiomyocytes, H1876

Nuclear magnetic resonance spectroscopy

phosphorus-31

in early myocardial ischemia, H1333 in heart, H1333, H2085

and ischemic preconditioning in rat heart, H544

in myocardium, during hypoxia, H2664

in postischemic skeletal muscle, H83 in stunned myocardium, H1122 in trained heart, H409

in working guinea pig heart, H371 of postischemic reperfusion in vascular endothelium, H1986

Nucleoside transport inhibitor

myocardial infarct size reduction with, H1857

Nucleus of solitary tract

5-HT $_3$ receptors, and carotid chemore-flex, H1250

interactions of sympathetic and vagal cardiac afferent, H2843 S-nitrosocysteine in, stereoselective recognition sites for, H2361

O

Opiate receptors

antagonists, chronic administration of, in experimental heart failure, H478

Opioid receptors

interaction with β -adrenergic receptors, in cardiomyocytes, H797

Opioids

and cAMP, in hypoxic vasodilation, H1350

exogenous, and microcirculation of injured peripheral nerves, H76

Ouabain

and arterial chaos, H1696

Ovary

see also Rats, ovariectomy in

steroids produced by, and coronary vascular muscle reactivity, H2645

Oxidants

and intracellular free zinc in cardiomyocytes, H2095

in ischemia-reperfusion-induced dysfunction, H2976

Oxidative phosphorylation

maximal capacity, of mammalian heart, H769

Oxidative stress

ATP and, in cardiomyocytes, H1598

Oxyger

delivery, venular structures in, H2233 diffusion

coefficient, H1106

in muscle, temperature and, H1106 oxygen-15, blood substitute studies with, H2492

and pulmonary vasodilation in response to birth-related stimuli, in fetal lamb, H2377 transport, in muscle, H1106 uptake

in dynamic exercise, H2655 in perfused rat hindlimb, vascular a₁-adrenoceptor control of, H2146

Oxygen consumption

exercise training and, H1070 heat acclimation with exercise and, H2085

in mouse, at rest and during exercise, H1053

in muscle, H1106

myocardial in dogs, H753

in heart failure model, H186

in mammals, H769 in working guinea pig heart, H371

Oxygen-derived free radicals see also Superoxide

cardiomyocyte injury due to, H1598 in fetal growth retardation, in rats, H701

and ischemia-reperfusion injury in vascular endothelium, H1986 in myocardial ischemia. H2071

Oxygen saturation

arterial, in dynamic exercise, H2655

Oxygen tension

arterial, high, and coronary endothelium, H67 gradients, in venous microcirculation,

H2233

P

Panic attacks

lactate-induced, autonomic reactivity and hormonal secretion in, H2630

Paraplegia

sympathovagal balance of heart in, H835

Parasympathetic nervous system

effects on atrioventricular conduction time, H2289 and heart rate regulation, H2525

hypothyroidism and, H894 response to mental stress, H1113 and sympathovagal balance of heart in spinal cord injury, H835

Patch-clamp studies

of cardiomyocytes, H606, H1625, H1741, H2164

in fetal and neonatal heart, H1188 in cerebral arteries, H638

of delayed rectifier potassium current in cardiomyocytes, H1292

in vascular smooth muscle, H987 whole cell, in human atrial cells, H227

Pericardium

gene transfer to, by intrapericardial administration of adenovirus, H310 influence on ventricular mechanics, dynamic model of, H2942

Peripheral nervous system

injury, microcirculation in, exogenous opioids and, H76

Permeability

capillary, H937 endothelial, H1560 cGMP and, H91

microvascular

estimation of, H382 myosin light chain phosphorylation and, H1437 nitric oxide synthase inhibition and, H176

vascular

see also Leukocyte-endothelial cell

in ischemia-reperfusion, H2976 venular, myosin light chain phosphorylation and, H1437

Peroxynitrite

effects on cardiac efficiency, H1212 formation, in myocardial ischemiareperfusion injury, H2327

pН

in abdominal ischemia, H791 intracellular

in anoxic ventricular myocytes, H2679

in cardiac ischemia-reperfusion, heat acclimation with exercise and, H2085

ischemic preconditioning and, study in isolated rat heart, H544

myocardial, regulation during hypoxia, in vivo, H2664

in myocardium, angiotensin II and, H1131

Phentolamine

and myocardial pH_i regulation during hypoxia, H2664

Phenylephrine

vasoreactivity to, in hypoxia, H1945

vasoreactivity (

see also Inorganic phosphate
high-energy, and ischemic precondition-

ing in rat heart, H544

Phosphatidylethanolamine alkenylacyl, turnover, in endothelial cells, in hypoxia, H1426

Phosphocreatinine

in cardiac recovery with ischemia-reperfusion, heat acclimation with exercise and, H2085

Phospholamban

and carbachol inhibition of β-receptor subtypes, H2726

expression, and SR calcium ATPase, coordinate regulation in developing heart, H57

knockout mice

cardiac cAMP and protein phosphorylation in, β-adrenergic regulation of, H785

and L-type calcium channel function, H606

Phospholipases

PLA:

and adenosine-stimulated DNA synthesis in human endothelial cells, H1470

and eicosanoid synthesis by endothelial cells, H1426

thrombin activation of, and lysophosphatidylcholine production in cardiomyocytes, H1972

Phosphorylation myosin light chain, and venular perme-

ability, H1437 oxidative, kinetics of, in hypertrophied

heart, H1615 protein, in phospholamban-knockout mouse hearts, β-adrenergic regula-

tion of, H785 troponin I, myocardial infarction and, H360

Physical training, see Exercise training

Pial artery

dilation, hypoxia-induced, H1350 vasodilation, hypoxic, potassium channel activation and, H1785

Pigs

endotoxemic shock, hemodynamic effects of endothelin and prostanoids in, H1239

heart

maximal oxidative phosphorylation capacity of, H769

regional myocardial glucose uptake, positron emission tomography of, H343

myocardial infarct size reduction in, with R-75231, H1857

neonatal

cerebral ischemic injury in, H2622 cerebral vasodilation, in hypoxia, H1323

intrapulmonary artery relaxation, chronic hypoxia and, H2436

newborn, cerebral vasodilator effect of magnesium in, H511

pulmonary vasculature, hypoxic, ET-1 binding in, H669

Pituitary adenylate cyclase-activating peptide

in hypoxic vasodilation, H1350

Plasma expanders

oxygen vs. nonoxygen carriers, for fluid resuscitation in hemorrhagic shock, H525

Plasma volume

in females, age-related decline in, effects of exercise on, H2534

Platelet-activating factor

endothelial, and rapid immobilization of rolling neutrophils, H114 and inflammatory effect of vascular

endothelial growth factor, H2746 neutrophil-cardiomyocyte adhesion induced by, inhibition by nitric oxide, H2807

Platelet-activating factor receptor and calcium signaling in macrophages, H17

Platelet-leukocyte aggregation in ischemia-reperfusion, H2976

Platelets

adhesion, in rats, H2875

PMN, see Neutrophils Polymerase chain reaction

reverse transcriptase, for adenosine receptor detection in outer medullary descending vasa recta, H1231

Polymorphonuclear cells, see Neutrophils

Portal hypertension in endotoxemic shock, H1239

Positron emission tomography of regional myocardial glucose uptake, H343

Postural change

and R-R intervals in atrial fibrillation, H1643

Postural reflex

and muscle sympathetic nerve activity, with head-down neck flexion, H1780

Posture

and system identification of closed-loop cardiovascular control, H448 Potassium channels

see also Potassium currents

α-adrenergic modulation of, H1275 ATP-sensitive

alterations, in failing human hearts, H1656

in basilar artery, H256 in cardiomyocytes, H1741

modulation by adenosine, H325

in coronary vasoconstriction with high arterial oxygen tension, H67 and diaphragmatic microvascular flow, H272

and iloprost dilation of small arteries, H1147

inhibition, in hemorrhagic shock, H688

and memory of ischemic preconditioning, H334

and pulmonary vasodilator responses to sodium nitroprusside, H290

blockade, and ACh-induced hyperpolarization and relaxation in mesenteric arteries, H2306

in bovine coronary resistance arteries, H1462

calcium-activated

in basilar artery, H256

and nitric oxide-induced pulmonary artery relaxation, H904

calcium-sensitive

and hypoxic vasodilation, H1785 and iloprost dilation of small arteries, H1147

and myogenic response in mesenteric small arteries, H2241

cardiac

ATP-sensitive, H2607

human hKv1.5, block, by β-subunit hKvβ1.2, H2932

IGF-I effects on, in neonatal rat, H2599

in ischemic preconditioning, H2607 in cardiomyocytes, arachidonic acid and, H350

delayed rectifier

HERG, expression in Xenopus oocytes, H1309

ultrarapid, in cardiomyocytes, H2599 G protein-coupled (GIRK1/GIRK4),

ATP-dependent regulation of, H195 inward rectifier, development of, in cardiomyocytes, H1741

large-conductance calcium- and voltageactivated, and coronary artery relaxation, H2765

voltage-gated, and nitric oxide-induced pulmonary artery relaxation, H904

Potassium currents

see also Potassium channels

ATP-sensitive, in cardiomyocytes, H1598

in atrial myocytes, swelling and, H1904 calcium-activated, in endocardial endothelial cells, H1770

calcium-dependent, functional activity, in basilar artery, during hypertension, H1287

delayed rectifier

α-adrenergic modulation of, H1275 effects of intracellular magnesium on, H1292

inward rectifier, in endocardial endothelial cells, H1770 muscarinic, development of, H1188

tion in. H74

hemodynamic adaptation in, H695 human, nitric oxide-mediated vasodilation in, H748

endothelial nitric oxide synthase

transient outward, in cardiomyocytes,

and endocardial endothelial cell resting

membrane conductance, H1770

extracellular, and modulation of ectopic

expression in, in sheep, H1730

Preproenkephalin

focus, H1759

H1791

Potassium ions

Pregnancy

mRNA, in cardiac hypertrophy, H2885

Pressor reflex

see also Exercise pressor reflex during abdominal ischemia, H1928 in abdominal ischemia, H791

Pressor reflexes

cardiovascular, central nervous system inputs in, H2843

Progesterone

arterial pressure reduction by, in ewes, H386

and coronary vascular muscle reactivity, H2645

Proliferating cell nuclear antigen 1,25-dihydroxyvitamin D₃ and, H1751

Prostacyclin

release, estrogen-induced, and resistance artery adrenergic sensitivity, H2264

Prostaglandins

PGF_{2α}, coronary vasoconstriction with, H2054

PGH₂, and venular response to acetylcholine, H2541

Prostanoids

and cerebral hypoxia, H418

endothelial vasoconstrictor, in hypertensive rats, H493

hemodynamic effects, in endotoxemic shock, H1239

Protein kinase A

and adenosine-stimulated DNA synthesis in human endothelial cells, H1470

in cardiomyocytes

and calcium influx from action potential prolongation, H1798 and inhibition of transient outward potassium currents, H1791

Protein kinase C

and adenosine-stimulated DNA synthesis in human endothelial cells, H1470

and coronary vascular muscle reactivity, H2645

in developing myogenic contraction in small arteries, H1165

in endothelial barrier function, H1437 in human pediatric cardiomyocyte preconditioning, H1220

 α isoform, in adult rat ventricular myocytes, H2485

isoforms, in developing heart, H1636 and isoproterenol, H927

and pulmonary vasoreactivity to serotonin, H740

Protein kinases

cAMP-dependent, and iloprost dilation of small arteries, H1147

cGMP-dependent, see Protein kinases, PKG Protein kinases (continued)

PKG, in endothelial barrier function. H1437

Proteins

contractile, and adult cardiocyte growth, H2902

import into cardiac mitochondria, aging and, H2983

phosphorylation, in phospholambanknockout mouse hearts, β-adrenergic regulation of, H785

small molecules, endothelial transcytosis of, H937

turnover, and adult cardiocyte growth, H2902

Protein tyrosine kinase

activation

in hydrogen peroxide-induced contraction in pulmonary artery, H2686

in neutrophil activation, H1302

Fyn, and inositol 1,4,5-trisphosphate receptor function, H597 and pulmonary vasoreactivity to seroto-

nin, H740 Protein tyrosine phosphatase activity, nitric oxide and, H1342

Protooncogenes

c-myc, 1,25-dihydroxyvitamin D3 and, H1751

Pulmonary artery

contractions, hydrogen peroxide-induced, cellular mechanisms of,

pressure, see Pulmonary hypertension

relaxation, nitric oxide-induced, potassium channels and, H904

Pulmonary edema

lymphatic protein washdown technique in. H382

Pulmonary hypertension

and cardiac adaptation to hypoxia, H1690

continuous nitric oxide inhalation and, H517

development of, serotonin in, H1173 endothelial nitric oxide synthase upregulation in, H806

in endotoxemic shock, H1239 hypoxic, in newborn, H669 neonatal, pathogenesis of, H2436 T-type calcium channels in, H2616

Pulmonary vascular resistance fetal, response to birth-related stimuli, H2377

Pulmonary vasculature

hypoxic, endothelin-1 binding in, H669 injury, recovery from, neutrophil recruitment in, H279 reflection coefficients, estimation of,

H382

Pulmonary veins

blood flow in, physical and physiological determinants, numerical analysis of, H2453

Pulsus parodoxus

right-left heart interaction with, modeling, H1499

Purinergic nerves

and lingual artery innervation, H1582

Purinergic receptors

P2X, and ATP-triggered cardiocardiac reflex, H1898

Quadriplegia

sympathovagal balance of heart in, H835

R

R-75931

myocardial infarct size reduction with, H1857

Rabbits

aorta, endothelium-dependent responses of, in hypercholesterolemia, H613

aortic endothelial cells, ATP-sensitive calcium channels in, H2507

basilar artery, histamine-evoked membrane currents in, H638

dynamic vagosympathetic interaction in, H2180

atrioventricular nodal facilitation in. mechanism of, H2815

ectopic focus, modulation of, H1759 intracellular sodium in, thyroid status and, H1589

myocardial blood flow tracers, rubidium and thallium as, H1480

myocardial phosphoenergetics, opensystem kinetics of, H2563

sinoatrial node, effects of I_f blockers on, H2782

sinoatrial node, hyperpolarizationactivated current, in newborn vs. adult, H1549

heart failure model, myosin heavy chain synthesis in, H969

Rats

bleeding time prolongation in hemolysis, H2875

blood pressure variability in, nitric oxide and, H632

brain

5-HT₃ receptors in nucleus of solitary tract, and carotid chemoreflex,

medullary AMPA receptors, and exercise-pressor reflex, H2774

carotid artery, repair, autocrine C-type natriuretic peptide in, H2919

cardiomyocytes, opioid receptor interaction with β-adrenergic receptors in, H797

central nervous system, S-nitrosocysteine in, H2361

cerebral blood flow, dexmedetomidine and, H2547 choroid, erythrocyte flow in, quantifica-

tion of, H1444 chronically hypoxic, development of pulmonary hypertension in, H1173

diabetes model, see Diabetes mellitus, rat model

diaphragm, microcirculation, salbutamol-induced vasodilation in, H2173

diaphragmatic arterioles, myogenic response in, hypercapnia and, H1419 estrous cycle, and vascular adrenergic

sensitivity, H1819 fetal, growth retardation, oxygen-de-

rived free radicals in, H701 Fischer 344

baroreflex function in, H776 blood pressure variability in, H776 streptozotocin diabetes in, erectile physiology and, H1960

gracilis muscle, venular response to acetylcholine in, H2541

heart

contractility, in situ, H2671 fetal, development of muscarinic potassium current in, H1188 function, in model of chronic aortic stiffness, H2211 hypertrophied, energy metabolism in,

H1615 inward rectifier potassium channels

in, development of, H1741

ischemic preconditioning, glibenclamide-induced blockade of, H2607 myocardial adaptation and ischemic preconditioning in, H2708

neonatal, development of muscarinic potassium current in, H1188 preproenkephalin mRNA, and blood

pressure, H2885

trained, function and bioenergetics,

heart ventricles, electrical heterogeneity in, H1078

hemorrhagic shock in, tumor necrosis factor and, H2219

hindlimb, sympathetic vasodilation, neurogenically derived nitrosyl factors and, H2369

hypertensive, exercise effects on cardiac autonomic tonus, gender differences in. H1412

kidney, outer medullary descending vasa recta, hydraulic and diffusional permeabilities of, H392

Lewis inbred, coronary artery ligation in, chronic heart failure induced by, H722

mesenteric microvasculature, lysophosphatidylcholine in, H2584

mesenteric small arteries, myogenic response, calcium-sensitive potassium channel blockade and, H2241 myocardial ischemia-reperfusion injury,

inflammatory mediators in, H2327 neonatal, cardiac potassium channels,

IGF-I effects on, H2599 ovariectomy in

and arteriolar myogenic tone, H1804 and vascular adrenergic sensitivity,

pregnant, aortic compliance in, H1260 pseudopregnancy in, hemodynamic effects of, H695 Ren-2, endothelium-dependent vasocon-

striction in, H493 skeletal muscle, ischemia-reperfusion

in, ascorbate and, H83

skeletal muscle arterioles, reactivity, during chronic myocardial infarction, H2403

spinal cord injury, cardiovascular regulation in, H625

spinotrapezius muscle, venous microcirculation, oxygen tension gradients in, H2233

spontaneously hypertensive, see Spontaneously hypertensive rats

vascular remodeling in, H517

ventricular myocytes, inward rectifier potassium channels in, development of, H1741

vitamin D3 plus nicotine treatment, and cardiovascular reflexes, H2211

Wistar-Furth, resistance to mineralocorticoids in, H1454

Wistar-Kyoto

adaptation to hypovolemia, central nitric oxide and, H2282

Zucker fatty diabetic, intestinal flowmediated regulation in, H728

Relaxin

effects on cardiomyocytes, H1791, H1798

Renal artery

blood flow, analysis by MR cine phase contrast, H2477

Renal sympathetic nerve activity during heat stress, H776 pulmorenal reflexes and, H979

Renin-angiotensin system

angiotensin-converting enzyme inhibition and, H679

and aortic viscoelasticity, H859 Renovascular hypertension

pathophysiology of, H859 Reperfusion, see Ischemia-reperfusion

Resistance

vascular, and muscle sympathetic nerve activity, with head-down neck flexion, H1780

venous, erythrocyte aggregation and, H1020

Respiration

rhythm-controlled, and R-R intervals in atrial fibrillation, H1643

Respiratory muscles

arterioles, myogenic response in, hypercapnia and, H1419

Resuscitation

in hemorrhagic shock, H688

Retina, see Eye, retina

Rubidium ions

as blood flow tracer, H1480

Ryanodine

and arterial chaos, H1696 and sarcoplasmic reticulum expression in cardiomyocytes, H2639

Ryanodine receptors

and inotropic response to calcium, in hypoxic fetal sheep, H1196 and intracellular calcium release, H597 signal transduction by, H597

Sarcomere length

anterior and posterior left ventricular, during ejection, H469

and calcium transient in cardiac trabeculae, H1892

changes, and microvascular structure and function, H2107

Sarcoplasmic reticulum

calcium ATPase

2,5-di-tert-butylhydroguinone and, H1001

downregulation, during progression of left ventricular hypertrophy, H2416

expression, hormonal modulation of, H1876

and phospholamban expression, coordinate regulation in developing heart, H57

calcium load

and frequency of calcium sparks in cardiomyocytes, H657

in pressure-overload hypertrophy, H2425

calcium release

β-adrenergic stimulation of smooth muscle and, H244

and arterial chaos, H1696

calcium-storing proteins, in cardiac hypertrophy, H158 cardiac, postnatal development of, H57

cardiomyocyte

calcium release from, H1625 upregulation by TGF-β1, H2639

Selectins

L-selectin

and apoptosis in neutrophils, H2852 and calcium signaling via tyrosine kinase, H1302

expression, in aging neutrophils, H401

and neutrophil release from bone marrow, H1717

P-selectin

in immobilization of rolling neutrophils, H114

and leukocyte rolling in cremaster muscle, H1725

in mesenteric microvasculature, H2584

Selenite

and intracellular free zinc in cardiomyocytes, H2095

Senescence, see Aging

Sepsis

cardiomyocyte cell volume in, H2989 hemodynamic effects of endothelin-1 in, H2353

SERCA2, see Sarcoplasmic reticulum, calcium ATPase

Serotonergic system

central, hypothyroidism and, H894 Serotonin

basilar artery response to, H1287

and cerebrovascular calcium sensitivity, in sheep, H2271 collateral vessel response to, H2409

and coronary vascular muscle reactivity, H2645 in development of pulmonary hyperten-

sion, H1173 pulmonary vasoreactivity to, H740

pulmorenal reflexes and, H979

Serotonin receptors

5-HT

in nucleus of solitary tract, and carotid chemoreflex, H1250 pulmonary afferents sensitive to, and renal sympathetic nerve activity, H979

Sheep

cardiac inotropic actions of urocortin in,

cerebrovascular calcium sensitivity in, H2271

female, arterial pressure reduction in, by progesterone, H386

activator calcium and myocardial contractility in, H1196

pulmonary vascular resistance, response to birth-related stimuli, H2377

pregnant, endothelial nitric oxide synthase expression in, H1730

Shock

circulatory, see Shock, hemorrhagic hemorrhagic

ATP-sensitive potassium channel inhibition in, H688

fluid resuscitation for, with oxygen vs. nonoxygen carriers, H525

regulation of hepatic blood flow after, H2736

tumor necrosis factor in, H2219

Signal transduction

adrenergic, and B-blockade, H1672 α-adrenergic modulation of, in Xenopus oocytes, H1275

in human pediatric cardiomyocytes, H1220

in hydrogen peroxide-induced contractions of vascular smooth muscle,

by inositol 1,4,5-trisphosphate receptors, H597

by lysophosphatidylcholine, molecular mechanism of, H17

mechanochemical, and adult cardiocyte growth, H2902

in neonatal pulmonary arteries, chronic hypoxia and, H2436

neutrophil L-selectin in, H1302 and pulmonary vasoreactivity to serotonin, H740

by ryanodine receptors, H597 sensory, during abdominal ischemia, H1928

in ventricular mycocytes, H2591

SIN-1, see 3-Morpholinosydonimine-N-ethylcarbamide Sinoatrial node

hyperpolarization-activated current, in

newborn vs. adult, H1549 hyperpolarization-activated inward current blockers and, H2782

pacemaker activity, regional differences in role of calcium and sodium currents in, H2793

parasympathectomy, and heart rate regulation, H2525

Sinus node

cardiocardiac vagal depressor reflex and, H1898

discharge rate, nitric oxide and, H263

aged, decreased vasodilator sensitivity in. H1609

Smoking

vascular injury due to, mechanisms of, H2337

Sodium-calcium exchange

in cardiomyocytes

inhibition by external cadmium ions,

in pressure-overload hypertrophy, H2425

in myocardial ischemia, H2071 and vasoconstriction in hypertensive

lungs, H2616 Sodium currents

in pacemaker activity in sinoatrial node, H2793

Sodium/hydrogen antiporter

(sodium/hydrogen exchanger) and adenosine-stimulated DNA synthesis in human endothelial cells, H1470 inhibition, and myocardial pHi regulation during hypoxia, H2664

and intracellular sodium in rabbit heart, thyroid status and, H1589 in vascular smooth muscle, H244

Sodium ions

cytosolic, in anoxic ventricular myocytes, H2679

effects on transient outward current, in canine ventricular myocytes, H1 intracellular, in rabbit heart, H1589

Sodium nitroprusside

pulmonary vasodilator responses to, inhalational anesthesia and, H290

Sodium-potassium ATPase

in cardiomyocytes, dietary cholesterol and, H1680

and intracellular sodium in rabbit heart, thyroid status and, H1589

Sodium-potassium-two chloride cotransporter

in cardiomyocytes, H735 and cell volume in sepsis, H2989

Spinal cord

dorsal column stimulation, cutaneous vasodilation during, H950

Spinal cord injury

rat model, cardiovascular regulation in, H625

sympathovagal balance of heart in, H835

Spinotrapezius muscle

length changes, and microvascular structure and function, H2107 venous microcirculation, oxygen tension gradients in, H2233

Spontaneously hypertensive rats adaptation to hypovolemia, central nitric oxide and, H2282

heart failure in, cardiomyocyte apoptosis during transition to, H2313 stroke prone, H1287

Stable isotope tracers

for myocardial blood flow, H1480

Staurosporine

and pulmonary vasoreactivity to serotonin, H740

mechanical, in vascular system, H2188 psychological, heart rate variability and, H1113

Stroke volume

in dynamic exercise, hypoxia and, H2655

Substance P

and reactivity of skeletal muscle arterioles, during chronic myocardial infarction, H2403

Sudden death

see also Cardiac hypertrophy in long Q-T syndrome, H1309

Superior mesenteric artery occlusion, ischemia with, reflex response to, H791

Superoxide

formation, in myocardial ischemiareperfusion injury, H2327

Supraventricular tachycardia atrial natriuretic peptide release during, H820

Sympathetic nervous system see also Renal sympathetic nerve activity; Vagosympathetic interaction

activity, and arterial pressure, in rat model of spinal cord injury, H625 afferent neurons, activity during abdominal ischemia, summation of, H1928

cardiac, response to myocardial ischemia, H2079

chronic stimulation, cardiomyopathy induction by, H585

dynamic baroreflex regulation of, nitric oxide in, H2446

and heart rate regulation, H2525 hypothyroidism and, H894

lumbar, nitrosyl factors released by, H2369

modulation of vasomotor activity, and systemic arterial pressure, H485 muscle activity, and head-down neck flexion, H1780

and renin-angiotensin system, H648 response to mental stress, H1113

and sympathovagal balance of heart in spinal cord injury, H835

and vascular reactivity, ovarian hormones and, H1819

and vascular \(\alpha_1\)-adrenoceptor control of muscle metabolism, H2146

T

Tachycardia

atrial natriuretic peptide release during, H820 chronic, myosin heavy chain synthesis in, H969

ventricular, H1838

TCV-116

chronic effects, in heart failure, H2139

Temperature

and pulmonary distribution of iodoantipyrine, H2250

Temperature, environmental and oxygen diffusion in muscle, H1106 Tetraethylammonium

basilar artery response to, H256, H1287 microvascular response to, in diaphragm, in hemorrhagic hypotension, H272

Thallium ions

as blood flow tracer, H1480

Thapsigargin

and arterial chaos, H1696

Thermoregulation aging and, H1609

Thrombin

activation of PLA2, and lysophosphatidylcholine production in cardiomyocytes, H1972

Thromboxane

and coronary vascular muscle reactivity, H2645

Thyroid hormones

and intracellular sodium, in rabbit heart, H1589

and SERCA2 expression in cardiomyocytes, H1876

Transforming growth factor

TGF-β1, upregulation of sarcoplasmic reticulum in cardiomyocytes, H2639

Transgenic mice

see also Knockout mice

with altered adrenergic receptor signaling, cardiac function in, H590, H1553

cardiac Gsa overexpression, cardiomyopathy induced by, H585

cardiac phenotypes in, physiological assessment of, H2513

left ventricular wall stress-shortening in, determination in vivo, H1047

Transient outward current

in canine heart, H1

in cardiac hypertrophy, stage-dependent changes in, H2853 in cardiomyocytes, α-adrenergic modu-

lation of, H1275 with ventricular hypertrophy, H1078

Triiodothyronine

and intracellular sodium, in rabbit heart, H1589 and SERCA2 expression in cardiomyo-

cytes, H1876

Trophoblast

and hemodynamic adaptation in pregnancy, H695

Troponin I

and carbachol inhibition of β-receptor subtypes, H2726

phosphorylation

myocardial infarction and, H360 in phospholamban-knockout mouse hearts, H785

Tumor necrosis factor

and neonatal cardiomyocytes, H1937 TNF-0

in hemorrhagic shock, H2219 and leukocyte adhesion in arterioles, H1725

monoclonal antibody to, H2219 and selectin-mediated leukocyte rolling, in arterioles, H1391

Tyrphostin 25

and pulmonary vasoreactivity to serotonin, H740

U-46619

basilar artery response to, H1287 and coronary vascular muscle reactivity, H2645

UL-FS-49

effects within sinoatrial node, H2782

Ultrasound

arterial wall tracking, H1260 three-dimensional imaging, of regional vascular mechanics, H425

Urocortin

cardiac inotropic actions of, in sheep, H2115

Uterus

blood flow to, and fetal growth, in rats, H701

Vagosympathetic interaction

dynamic, H2180

Vagus nerve

see also Vagosympathetic interac-

afferents, left ventricular, in ATP-triggered cardiocardiac reflex, H1898 interactions with cardiac sympathetic efferents, H2843

phasic stimulation, and atrial pacing site, effects on atrioventricular conduction time, H2289

Valsalva maneuver

right-left heart interaction with, modeling, H1499

and R-R intervals in atrial fibrillation, H1643

Vascular endothelial growth factor inflammatory effect of, platelet-activating factor and, H2746

Vascular remodeling

see also Heart ventricles, remodel-

ing aortic, flow-induced, H851 in rats, H517

Vasoconstriction

angiotensin II-induced, sympathectomy and, H648

C5a-induced, in isolated coronary arteries, H12

coronary

with high arterial oxygen tension, mechanisms of, H67 novel model of, H2054

endothelin-1 in, H2385

endothelium-dependent, in hypertensive rats, H493

in hypertensive lungs, T-type calcium channels and, H2616 in mesenteric arteries, vasopressin and,

H1087 in perfused rat hindlimb, H2146

renal, agonist-induced, during hypoxia, H1945

Vasodilation

see also Vasorelaxation

arteriolar, endothelium-dependent, nicotine and, H2337

cerebral, hypoxia-induced, in neonatal pig. H1323

conducted

electromechanical transduction of, H2895

pressure effects on, H2895 sustained, H1364

cutaneous, during dorsal column stimulation, H950

endothelium dependent exercise training and, H1070 isoflurane and, H290 nicotine and, H2337 in pulmonary hypertension, H806 hypoxic

in bovine coronary resistance arteries, H1462

cAMP and opioids in, H1350 integrin-mediated, calcium dependence of, H2065

neurogenic, in lingual artery, H1582 nitric oxide-mediated, in human pregnancy, H748

in skin, aging and, H1609 T-kinin and, in cats, H1491

Vasomotion

chaotic, H1826

in resistance arteries, smooth muscle calcium stores and, H1696

conducted, extracellular ATP and, H1886

sympathetic modulation of, and systemic arterial pressure, H485

Vasonconstriction

noncatecholamine-induced, in mesenteric circulation, H207

Vasopressin

and adrenergic responses in human mesenteric arteries, H1087 vasoreactivity to, in hypoxia, H1945

Vasoreactivity

see also Vasoconstriction; Vasodilation; Vasorelaxation

angiotensin II-induced, sympathectomy and, H648

arteriolar, nicotine and, H2337

cerebral arterial, traumatic brain injury and, H1406

coronary artery, hypoxia-induced hyperpolarization and, H1462 ovarian hormones and, H1819

Vasorelaxation

see also Vasodilation

endothelium-dependent, in isolated coronary arteries, H12

Vasospasm

coronary endothelin-1 in, H2054 prostaglandin F2a in, H2054 endothelin-1 in, H2385

Ventricles

cardiac, see Heart ventricles

Ventricular fibrillation

defibrillation success, refractoriness extension and, H1011

Venules

coronary, ventricular contraction and, H2963

endothelium, vasoactive function of, H2541

permeability, myosin light chain phosphorylation and, H1437 skeletal muscle, response to acetylcho-

line, H2541

Verapamil and pulmonary vasoreactivity to serotonin, H740

Vestibulosympathetic reflexes

and muscle sympathetic nerve activity, with head-down neck flexion, H1780

Viscerosomatic reflex

nicotine-evoked, H827

Voltage-clamp studies

in Xenopus oocytes, H1309

Volume replacement

with oxygen vs. nonoxygen carriers, for fluid resuscitation in hemorrhagic shock, H525

Water balance

myocardial, regulation of, H706 White blood cells, see Leukocytes

Xenopus oocytes

G protein-coupled potassium channel (GIRK1/GIRK4) expressed in, ATPdependent regulation of, H195

human a_{1C}-adrenoceptor in, modulation of potassium channels coexpressed with, H1275

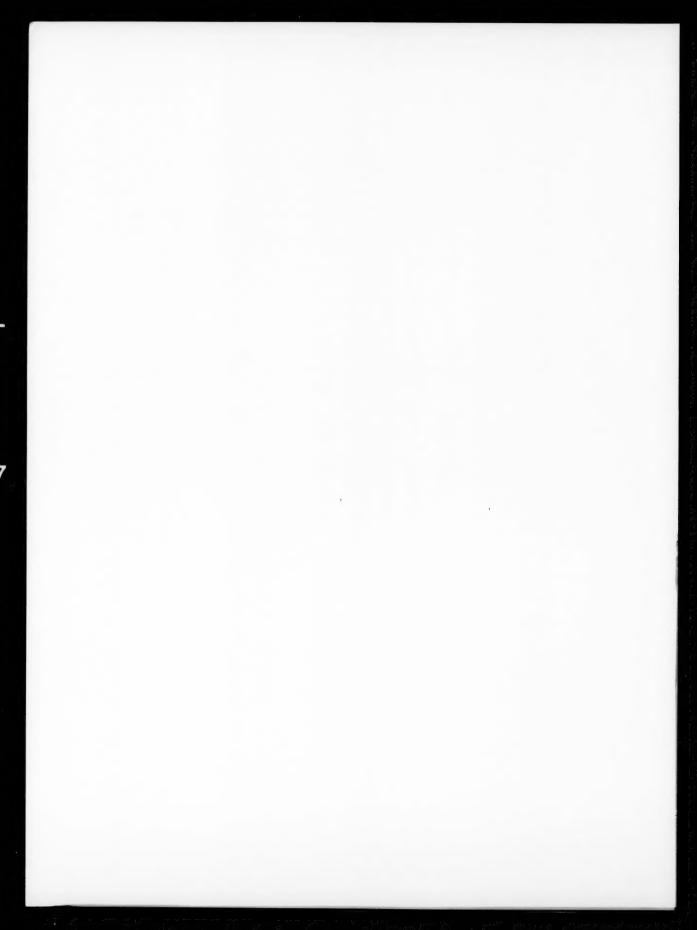
L-type calcium channel expression in, H1372

single HERG delayed rectifier potassium channels expressed in, H1309

ZD-7288

effects within sinoatrial node, H2782 Zinc ions

intracellular free, in cardiomyocytes, oxidants and, H2095



Author Index to Volume 41

A

Abdenour, L., H67 Abe, T., H25 Accili, E. A., H1549, H2932 Adams, D. J., H2507 Adelman, A. G., H2079 Adnot, S., H1173 Aegerter, P., H1173 Akita, H., H2807 Akiyama, T., H1182 Akopov, S. E., H2271 Alali, A., H958 Albadawi, H., H1426 Aldasoro, M., H1087 Alessandrini, R. S., H1952 Alexander, J., Jr., H2180, H2446 Allaart, C. P., H2320 Allen, J. C., H869 Ally, A., H2774 Almenoff, P. L., H835 Alonso, O. F., H2859 Alvarez, B., H1131 Amadi, A. A., H438 Amsterdam, E. A., H12 Anderson, K. E., H776 Anderson, P. G., H2131 Anderson, S. I., H2757 Angelini, G. D., H1063 Anno, T., H2833 Antzelevitch, C., H1 Anversa, P., H360 Appel, M. L., H448 Aprigliano, O., H2726 Apstein, C. S., H501 Arai, A. E., H769 Arakawa, K., H679 Ardell, J. L., H2525 Arens, S., H371 Argenbright, L. W., H2976 Armentano, R. L., H859 Armstead, W. M., H1350, H1785 Arthaud, M., H67 Artz, N., H1666 Asada, Y., H207 Asai, K., H585, H753 Asano, Y., H2547 Ashraf, M., H927 Assadi, M. A., H299 Atkinson, J., H2211 Ayajiki, K., H1582

В

Bagiella, E., H2227 Bahrami, S., H2219 Balaban, R. S., H769 Baldwin, D., H343 Ballard, H. J., H318 Balligand, J.-L., H958 Barbe, F., H1266 Barclay, M. M., H2902 Barman, S. A., H740 Barra, J. G., H859 Barron, K. W., H950 Barsh, G. S., H1053 Barshtein, G., H538 Bassani, J. W. M., H2425 Basset, G., H2250 Bates, J. A., H2164 Bates, J. N., H2361

Bauduceau, B., H1094 Bauer, M., H2736 Bauman, W. A., H835 Bauters, C., H613 Beal, M. F., H1986 Beamish, R. E., H884 Beatch, G. N., H1292 Beaussier, M., H67 Beetsch, J. W., H2622 Ben Driss, A., H851 Benessiano, J., H851 Bénitah, J.-P., H1078, H2500 Bentley, T. B., H1106 Berecek, K. H., H2131 Berg, B. R., H2693 Bergelson, L., H538 Bernardi, L., H123 Bernstein, D., H1053 Berry, J. E., H1751 Bers, D. M., H657, H2416, H2425 Bertrand, M. E., H613 Beshara, M., H1499 Best, P. M., H1791, H1798 Bhalla, R. C., H1996 Bhatnagar, A., H1598 Bhatty, R. A., H1996 Bian, K., H1406 Bibawy, G., H2453 Bick, R. J., H1937 Bicknell, S. G., H401, H2852 Bidani, A., H2942 Bigard, X., H1690 Bing, O. H. L., H2313 Bird, I. M., H1730 Bishop, S. P., H2131 Bizub, D. M., H1462 Black, K. W., H462 Blanco, L. N., H1553 Blatter, L. A., H657 Bock, M., H2477 Boels, P. J., H2436 Bohlen, H. G., H728 Böhm, M., H2701 Bonham, A. C., H1650, H2843 Bonigut, S., H1650 Borst, M. M., H1672 Bosnjak, Z. J., H559 Bouchonnet, F., H2250 Bovendeerd, P. H. M., H2963 Bower, V., H2250 Boyett, M. R., H2782, H2793 Braun, R. D., H1444 Brink, P., H1960 Broers, B. G. E., H2664 Brooks, E. M., H1609 Brown, J., H2919 Brown, J. H., H130 Brown, J. M., H2708 Brown, M. D., H2757 Browne, V. A., H1196 Brunton, L. L., H130 Bryan, A. J., H1063 Buczko, W., H2875 Budinger, T. F., H1480 Budzikowski, A. S., H2282 Buja, L. M., H1937

Bukoski, R. D., H1406

Burkhoff, D., H186, H1382, H2869 Burman, H. P., H1239 Busija, D. W., H1315 Busto, R., H2859 Buttrick, P. M., H409, H1636

C

Cabel, M., H1020 Cabrera Fischer, E. I., H859 Cahill, P. A., H1239 Calbet, J. A. L., H2655 Callera, J.-C., H1250 Camilión de Hurtado, M. C., H1131 Camm, A. J., H1643 Campbell, B., H2584 Capogrossi, M. C., H797 Caputo, M., H1063 Caramelo, C., H760 Caref, E. B., H299 Carey, L. A., H279 Caringi, D., H2774 Carretero, O. A., H722 Casado, S., H760 Cassin, S., H921 Cave, A. C., H544 Cavero, I., H2607 Chahal, P. S., H791 Champion, H. C., H1491 Chan, J. Y. H., H2204 Chan, S. H. H., H485, H2204 Chandler, M. J., H950 Chandler, M. P., H1412 Chandran, K. B., H425 Chang, H.-Y., H272, H2173 Chanudet, X., H1094 Chau, N. P., H1094 Chen, C.-R., H272 Chen, C.-W., H272 Chen, G., H2306 Chen, K., H1401 Chen, P.-S., H107 Chen, Q., H2919 Chen, Y., H1412 Chen, Y. I., H1986 Cheng, L., H244 Cheng, W., H360 Cheng, Y., H2815 Chenven, E., H1960 Cheung, D. W., H2306 Chiaramida, S. A., H1499 Chien, K. R., H2513 Chien, S., H1033, H2023 Chinard, F. P., H2250 Chipperfield, A. R., H735 Chisolm, G. M., H1560 Chiyotani, A., H1100 Cho, C.-H., H425 Choussat, R., H1266 Christ, G., H1960 Christensen, G., H820, H2513 Chua, T. P., H438 Chun, J. A., H310 Chung, D. C., H2942 Cingolani, H. E., H1131 Cirelli, R. A., H279 Cittadini, A., H501 Clanachan, A. S., H1212 Clark, J. W., Jr., H2942

Clark, M. G., H2146 Clay, A., H1898 Clemens, M. G., H2736 Cleveland, J. C., Jr., H2708 Clough, A. V., H1537 Coats, A. J. S., H438 Cody, S. H., H236 Cohen, K. D., H2693 Cohen, M. L., H2577 Cohen, R. J., H448 Cokelet, G. R., H2716 Collins, D. M., H1886 Collins, J. C., H2343 Colombo, R., H438 Colonna, D. M., H1315 Colguhoun, E. Q., H2146 Cook, M., H1666 Corseaux, D., H613 Covell, J. W., H2123 Cox, D. A., H2577 Coxson, P. G., H1480 Craig, E. E., H2983 Creer, M. H., H1972 Crockett-Torabi, E., H1302 Croom, J. E., H950 Crozatier, B., H1266 Csiky, B., H648 Cua, W. O., H2250 Cummings, K., H2264 Curran, M. E., H1309 Curry, F. E., H176 Curzen, N. P., H2353

D Dagan, A., H538 Dail, W. G., H806 Dales, C., H2679 Damon, D. N., H714 Damron, D. S., H350 Daneryd, P., H83 D'Angelo, G., H2065 Darkow, D. J., H2765 Dart, A. M., H1070 Davidoff, A. J., H148, H159 Davidson, B. L., H310 Davis, G. E., H2065 Davis, J. P. L., H735 Davis, M. J., H2065 Davisson, R. L., H2361, H2369 Davy, K. P., H2534 Dawson, C. A., H1537 Deal, D. D., H1315 Debets, J. J. M., H2211 De Biasi, M., H2932 Decker, M. L., H2902 Decker, R. S., H2902 Decking, U. K. M., H371 De Frutos, T., H760 De Gaetano, G., H2875 Delbridge, L. M. D., H2425 Delcamp, T. J., H2679 Delgado, C., H1078, H2500 DeMarco, V. G., H921 De Meersman, R. E., H835, H2227 De Mey, J. G. R., H1260 Denault, A. Y., H138 Denenberg, A., H688 Derosa, C., H186 Derr, J. A., H1609

Derylo, B., H1220 Desai, K. H., H1053 Desai, T. H., H2343 Désilets, M., H2095 DeSouza, C. A., H2534 De Tombe, P. P., H1892 DeUgarte, D., H958 Deutsch, J., H2436 Dewhirst, M. W., H1444 DeWitt, D. S., H1406 De Zengotita, J., H958 Dhalla, K. S., H884 Dhalla, N. S., H884 Dhaunsi, G. S., H1342 Dhother, S., H382 DiCarlo, S. E., H1412 Dickstein, M. L., H2869 Didion, S. P., H2403 Dietrich, W. D., H2859 DiFrancesco, D., H1549 Dihmis, W. C., H1063 Dobson, J. G., H1470 Dodge, K. L., H1212 Donati, M. B., H2875 Doohan, M. M., H1589, H1680 Doolen, S., H1819 Dora, K. A., H714 Dörnyei, G., H2541 Downey, H. F., H1333 Doyle, M. P., H1364 Drake, R. E., H382 Du, X.-Y., H1904 Duckles, S. P., H1819 Duling, B. R., H714, H1364 Dupuis, B., H613 Duvelleroy, M., H67

10

Earm, Y. E., H325 Eble, D. M., H969 Echezarreta, G., H760 Eckberg, D. L., H2040 Eddahibi, S., H1173 Edelman, E. R., H2746 Edes, I., H785 Edrington, J. L., H1323 Edwards, D. H., H1696 Efimov, I., H2815 Ehsani, A. A., H995 Eichinger, M. R., H1945 Eisfeld, J., H1372 El Alaoui-Talibi, Z., H1615 Ellsworth, M. L., H1886 El-Sherif, N., H299 Elvan, A., H263 Emch, M. E., H2492 Emery, J. L., H2299 Endo-Mochizuki, Y., H130 Ethier, M. F., H1470 Euler, D. E., H2416 Evans, T. W., H2353

F

Fahy, G. J., H2815
Fan, S. X., H576
Fan, W., H107
Fang, H. K., H2195
Fantone, J. C., H1302
Faraci, F. M., H256, H1287
Farquhar, W. B., H1609
Fedida, D., H2932
Ferguson, D. G., H57
Field, L. J., H220
Finklestein, S. P., H1401

Fischer, T.A., H958 Fishbein, M. C., H107 Fisher, A. C., H114 Fisher, P. E., H186 Fitzgibbon, W. R., H1454 Fliss, H., H2095 Flor, B., H1087 Foreman, R. D., H950 Foresman, B. H., H1359 Forman, K., H2377 Fox. P. T., H2492 Fransen, P., H1770 Fresne, D., H2492 Froehlich, J. P., H244 Fujii, S., H2188 Fujishima, M., H638 Fujita, T., H17 Fujiwara, Y., H290 Fukai, D., H2139 Funakoshi, M., H1165 Funaya, H., H2071

G

Gabel, J. C., H382 Gadbut, A. P., H958 Gaehtgens, P., H2716 Gambone, L. M., H290 Ganten, D., H493 García, R., H760 Gardin, J. M., H2394 Garlick, P. B., H544 Garrick, R. A., H2250 Gauthier-Rein, K. M., H1462 Gee, M. H., H279 Geiger, H., H979 Geiger, K. K., H2736 Gervasio, C. T., H2377 Gidday, J. M., H2622 Gilbert, R. D., H1196 Gilmour, R. F., Jr., H1826 Ginsberg, M. D., H2859 Ginsburg, K. S., H2425 Giordano, A., H438 Goins, B., H2492 Goldberger, J. J., H1952 Goldstein, D. S., H1666 Golod, D., H1759 Gómez, A. M., H1078, H2500 Gómez-Macías, J., H760 Gonzales, E. R., H2622 Gonzales, R. J., H806 Gonzalez, A., H130 Goodman, N. C., H567 Goodrow, R. J., H1 Goolsby, W. N., H1759 Gorcsan, J., III, H138 Gordon, D., H1810 Gorman, M. W., H913 Gotoh, M., H107 Gough, W. B., H299 Gowda, M., H1315 Granger, D. N., H2976 Gratton, E., H538 Gray, D. F., H1589, H1680 Gray, S., H12 Greenberg, N., H2453 Griffith, T. M., H1696 Griffiths, M. J. D., H2353 Grimm, D. R., H835 Gross, G. J., H334, H2607 Guccione, J. M., H469 Guendouz, A., H1615 Guezennec, C.-Y., H1690 Guo, W., H2599

Gustafson, L. A., H2563 Gutterman, D. D., H25

Hadley, R. W., H2679

н

Haghighi, K., H57 Hagley, M. T., H1527 Haley, L., H1717 Hall, A. F., H1527 Hall, C. S., H913 Hall, J. L., H2146 Hamon, M., H613, H1250 Han, J., H325 Hand, G. A., H48 Hansen, P. S., H1680 Hao, J. M., H2885 Harger, L., H2902 Harken, A. H., H2708 Harper, A. A., H735 Harrer, J. M., H57 Harrington, D., H438 Harris, A. G., H1710 Hashimoto, K., H1122 Hasin, Y., H2085 Hassid, A., H1342 Hatchell, D. L., H1444 Haworth, S. G., H669, H2436 Hayashi, S., H2852 He, M.-X., H913, H1333 He, P., H176 Heese, R., H2630 Heistad, D. D., H310, H1287 Hempel, A., H91 Henley, W. N., H894 Henzel, D., H1078 Hermsmeyer, K., H2645 Herzel, H., H2040 Heslinga, J. W., H2320 Hilal-Dandan, R., H130 Hilgers, K. F., H979 Himura, Y., H478 Hiraoka, Y., H211 Hirata, K.-I., H2807 Hislop, A. A., H669, H2436 Hittinger, L., H1266 Hnatkova, K., H1643 Ho, W., H325 Hobai, I. A., H2164 Hock, C. E., H843, H2327 Hoerter, J. A., H1690 Hofmann, P. A., H360 Hogg, J. C., H401, H1717, H2852 Hoit, B. D., H1047 Holmes, C., H1666 Holmes, J. W., H2123 Hölschermann, H., H91 Homcy, C. J., H585 Homma, S., H186 Hong, G., H2919 Honjo, H., H2782, H2793, H2833 Hood, D. A., H2983 Hool, L. C., H1589, H1680 Hopp, H.-H., H1147 Hori, M., H1122, H2071 Horiguchi, S., H1165 Horinaka, N., H1666 Horner, S. M., H1917 Horowitz, M., H2085 Horwitz, L. D., H618 Hoshikawa, Y., H1113 Houel, R., H1266 Howarth, F. C., H2164

Hsiue, T.-R., H272 Huang, A., H1804 Huang, P. L., H1401 Huang, Q., H1437 Huang, Y., H2023 Huang, Z., H1401 Hudetz, A. G., H559 Hudlicka, O., H2757 Huesman, R. H., H1480 Hunter, P. J., H2466 Hunter, W. C., H469 Hurn, P. D., H2557

Iacoviello, L., H2875 Ichihara, A., H679 Iellamo, F., H1157 Igel, D. A., H2289 Ikeda, Y., H2180 Ikonomidis, J. S., H1220 Iles, D. E., H1372 Imai, N., H478 Imanaka-Yoshida, K., H168 Imms, F. J., H748 Imoto, K., H2639 Indvk. V., H195 Ingwall, J. S., H409 Intaglietta, M., H525 Isales, C. M., H740 Isber, N., H299 Ishibashi, Y., H168 Ishikawa, M., H1122 Ishikawa, Y., H585 Ishimoto, H., H701 Islam, M. M., H1454 Ito, H., H2671 Ito, Y., H638 Iwase, M., H585

.I

Jaimes, D., H343 James, M. A., H1866 Janes, D. M., H2902 Janota, T., H1643 Janssen, P. M. L., H1892 Jarvis, A. K., H1751 Jayaweera, A. R., H567 Jelicks, L. A., H2394 Jenkins, B. G., H1986 Jennings, G. L., H1070 Jerabek, P. A., H2492 Jin, J.-S., H728 Jin, N., H2686 Johnson, A. K., H2361 Johnson, P. C., H1020, H2233 Johnston, W. E., H2942 Jones, J. L., H1011 Jones, P. P., H2534 Jongsma, H. J., H1759 Joyner, R. W., H1759 Jugdutt, B. I., H1205 Jung, O., H2701 Jung, U., H1391 Just, A., H2477

K

Kabbara, A. A., H1001 Kada, K., H2599 Kaddoura, S., H2353 Kadish, A. H., H1952 Kadowaki, H., H1426 Kadowitz, P. J., H1491 Kaji, A., H2584 Kaley, G., H1804, H2541 Kamiya, K., H2599, H2833 Kamouchi, M., H638 Kampine, J. P., H559 Kancel, M. J., H138 Kane, B. J., H425, H1952 Karagueuzian, H. S., H107 Karibe, A., H1165 Katchanov, G., H1898 Katnik, C., H2507 Katoh, H., H1165 Katsube, Y., H814 Kaufman, D., H618 Kaul, S., H567 Kaur, K., H1342 Kawada, T., H1182, H2180,

H2446 Kawaguchi, T., H2547 Kawashima, S., H2807 Kaye, D. M., H875 Keating, M. T., H1309 Keitoku, M., H1165 Keller, M. W., H2154 Keller-Wood, M., H386 Kellner, M., H2630 Kelly, R. A., H875, H958 Kennedy, C., H1666 Kenney, W. L., H1609 Kerger, H., H525 Khan, Z. U., H1047 Kiani, M. F., H2716 Kidwell, G. A., H2815 Kifor, I., H958 Kim, C.-R., H511 Kim, D., H195 Kim, E., H325 Kim, H. W., H57 Kimura, H., H2639 Kindig, C. A., H2107 King, T. W., H1937 Kingwell, B. A., H1070 Kinoshita, M., H2139 Kinsella, J. L., H244 Kinugawa, K.-I., H35 Kinzie, D. J., H2563 Kira, Y., H17 Kirchheim, H. R., H2477 Kishimoto, C., H211 Kiss, E., H785 Kitabatake, M., H517 Kitagawa, H., H1182 Kitakaze, M., H2071 Kitamura, K., H638 Klipper, R., H2492 Klöckner, U., H1372 Knecht, M., H1382 Knopp, M. V., H2477 Kobayashi, H., H207 Kobayashi, T., H701, H2774 Kobilka, B. K., H1053 Kobzik, L., H875 Koch, W. J., H590, H1553 Kodama, I., H2782, H2793,

H2833
Koehler, R. C., H2547, H2557
Koga, K., H1122
Koh, E., H244
Kohmoto, O., H35
Koller, A., H1804, H2541
Konduri, G. G., H2377
Kong, Y., H618
Konno, K., H1100
Korzick, D. H., H590
Koskolou, M. D., H2655
Koumi, S.-I., H1656
Kovács, S. J., H1527

Kranias, E. G., H57, H606. H785 Krassioukov, A. V., H625 Krause, D. N., H1819 Kregel, K. C., H776 Kreisberg, M. S., H1231 Kroll, K., H2563 Kübler, W., H1672 Kubota, E., H679 Kudej, R. K., H585, H753 Kuhl, J. P., H2227 Kumar, R., H1759 Kunkel, E. J., H1391 Kuo, L., H1571 Kuo, T. B. J., H485 Kurokawa, M., H211 Kurose, I., H2976 Kuruc, A., H1480 Kuschinsky, W., H1833 Kusuoka, H., H1122

L

Lab, M. J., H1917

Lablanche, J.-M., H613 Lagerwall, K., H83 Laguzzi, R., H1250 Lakatta, E. G., H244, H590, H797, H2313 Lamping, K. G., H310, H2409 Lang, M. G., H493 Larroque, P., H1094 Lartaud-Idjouadiene, I., H2211 Lasley, R. D., H1857 Launay, J.-M., H1173 Law, W. R., H2195 Leblanc, N., H1625 Lederer, W. J., H2500 Lee, D. S., H425 Lee, J.-K., H2833 Lee, M.-A., H958 Lee, S., H2671 Lee, T. J.-F., H207 Lefer, A. M., H2584 Leffler, C. W., H418, H1323 Lefkowitz, R. J., H590, H1553 Legramante, J. M., H1157 LeGrice, I. J., H2466 Leibowitz, D., H186 Leichtfried, G., H2219 Leinwand, L. A., H2394 Leistad, E., H820 LeMaistre, A., H1937 Lemen, L., H2492 Leonard, M., H979 Leuzzi, S., H123 Levenson, J., H859 Levi, A. J., H2164 Levin, R., H299 Levy, B. I., H851 Levy, E., H2085 Levy, M. N., H2289 Lew, W. Y. W., H2989 Lewis, S. J., H2361, H2369 Ley, K., H1391 Li, B., H360 Li, G.-R., H227 Li, J., H48 Li, P., H360 Li, R.-K., H1220 Li, S., H576 Li, Z., H1819, H2313 Liang, C.-S., H478 Lianxi, L., H2976

Liao, J. C., H1571

Liao, J.-P., H1937 Liggett, S. B., H785 Lim, K.-H., H1033 Lima, V. C., H2079 Lin, K. S., H2204 Lin, M., H462 Lindbom, L., H1725 Lindner, J. R., H567 Linehan, J. H., H1537 Linz, W., H2701 Lipsky, C. L., H279 Liu, B., H176 Liu, P., H2327 Liu, S., H2013, H2591 Liu, Y.-H., H722 Lluch, S., H1087 Lombard, J. H., H1462 Long, X., H2313 Longhurst, J. C., H99, H791, H1928, H2843 Longo, L. D., H1196 Loor-Estades, J. Y., H2859 Lopaschuk, G. D., H1212 López-Farré, A., H760 Lorente, P., H1078, H2500 Lorenz, J. N., H987, H1137 Lu, L., H2765 Lucariello, R. J., H1499 Luft, F. C., H979 Luo, W., H606, H785 Luo, Z., H553 Lüscher, T. F., H493

M

Maass-Moreno, R., H2826 Machado, B. H., H1250 Madhu, B., H83 Maeda, Y., H2139 Magness, R. R., H1730 Maiorov, D. N., H625 Malhotra, A., H360 Malik, M., H1643 Mandarino, W. A., H138 Mann, J. F. E., H979 Manson McGuire, A., H1527 Marks, A. R., H597 Marquetant, R., H1672 Marrelli, S. P., H869 Marshall, R. C., H1480 Martin, B. J., H1857 Martin, C., H2492 Martin, P. J., H2289 Martin, R. L., H1656 Maruyama, J., H517 Maruyama, K., H517 Marx, D., H343 Marzi, I., H2219 Masaki, H., H606 Massaro, D., H1553 Massaro, G. D., H1553 Massett, M. P., H776 Mateo, P., H1690 Mathias, J. M., H448 Matsuba, K. T., H2852 Matsuda, H., H679 Matsuda, S., H1122 Matsumoto, A., H679 Matsuoka, R., H17 Matthews, C., H1342 Mattiazzi, A., H1131 May, C. N., H2115 Mayhan, W. G., H2337, H2403 Mazgalev, T., H2815

Mazzuero, G., H438 McCarthy, P. M., H2453 McCulloch, A. D., H469, H2299 McCullough, W. T., H1886 McFalls, E. O., H343 McGahren, E. D., H714 McGuirt, A. S., H2525 McHowat, J., H1972 McKenna, T. M., H576 McMahan, C. A., H2492 McMillin, J. B., H1937 McMurtry, I. F., H2616 McPherson, D. D., H425, H1952 McPherson, R. W., H2547 Medina, P., H1087 Meggs, L. G., H360 Mei, D. A., H334 Meininger, G. A., H2065 Meiselman, H. J., H1020 Meldrum, D. R., H2708 Melman, A., H1960 Meng, W., H1315 Meng, X., H2708 Mentzer, R. M., Jr., H1857 Merkus, D., H706 Mershon, J. L., H1372 Messmer, K., H1710 Mestivier, D., H1094 Meurice, T., H613 Mewes, H., H1147 Meyer, M. C., H2264 Michel, J.-B., H851 Mickle, D. A. G., H1220 Mikala, G., H1372 Millard, R. K., H2004 Millás, I., H760 Minamikawa, T., H236 Minamino, T., H2071 Mital, S., H2377 Mitani, Y., H517 Mitchell, J. H., H48 Miyagashima, R., H1717 Miyagawa, K., H2645 Miyano, H., H2180, H2446 Miyasaka, K., H517 Miyashita, Y., H244 Miyawaki, H., H927 Miyazaki, T., H701 Mizumura, T., H334 Mo. F. M., H318 Mochizuki, Y., H2639 Mogford, J. E., H2065 Mokler, D. J., H2774 Mootha, V. K., H769 Moravec, J., H1615 Moravec, M., H1615 Morgan, A. L., H1609 Morgan, D. A., H25, H776 Morgan, J. P., H501 Mori, H., H2071 Mori, T., H1122 Moskowitz, M. A., H1401, Mosqueda-Garcia, R., H2343

Mosquera, J. R., H760

Mukherjee, R., H969

Mullen, T. J., H448

Muller, A., H1876

Mukkamala, R., H448

Mulvany, M. J., H2241

Muramatsu, M., H2616 Murohara, T., H2584 Murphy, S. P., H2369

Murakami, M., H679

Mouren, S., H67

Murray, P. A., H290 Musch, T. I., H2107 Myers, M. M., H2227

N

Nabel, E. G., H2385 Nafz, B., H632 Nagai, A., H1100 Nagayoshi, H., H1643 Nagele, R., H2327 Nagi, M. M., H1419 Naitoh, M., H679 Nakamoto, H., H679 Nakamura, M., H17 Nakaoka, T., H17 Nash, G. B., H114 Nass, O., H722 Natori, M., H701 Nattel, S., H227, H1625 Navon, G., H2085 Ndrepepa, G., H299 Neild, G. H., H748 Nelson, T. E., H462 Newton, G. E., H2079 Nickenig, G., H2701 Niederhoffer, N., H2211 Niina, H., H207 Nikmaram, M. R., H2782, H2793

Nilsson, H., H2241 Ning, X.-H., H2664 Niranjan, S. C., H2942 Nishimura, T., H1122 Nitta, S., H1100 Node, K., H2071 Noguchi, Y., H669 Noguera, I., H1087 Nöldge-Schomburg, G. F. E., H2736 Noll, G., H493 Noll, T., H91

Noma, A., H1188, H1741 Nordin, C., H1838 Nuñez, J. A., H2123

O'Connell, T. D., H1751
O'Dell, W. G., H469
O'Donnell, C. P., H1239
Ogata, R., H638
Ogita, T., H17
Oh, W., H511
Ohashi, Y., H2807
Ohshika, H., H2639
Okamoto, H., H559
Okamura, T., H1582
Omens, J. H., H2299
Onuki, T., H1100
Ooboshi, H., H310
Osol, G., H2264
Otani, N. F., H1826
Out, I. C. M., H695
Owen, J. M., H2793

p

Packer, M., H186, H1382 Paczwa, P., H2282 Paik, M., H2227 Pak, E., H2726 Palade, G. E., H937 Pallone, T. L., H392, H1231 Palmer, B., H343 Pan, H.-L., H99, H1928 Panahian, N., H1986 Panerai, R. B., H1866 Pannen, B. H. J., H2736 Parfenova, H., H418, H1323 Park, T. S., H2622 Parker, J. D., H2079 Parkes, D. G., H2115 Passino, C., H123 Patel, K. P., H2337 Paternò, R., H1287 Patrick, T., H753 Patrick, T. A., H585 Patton, G. M., H1426 Paul, M., H2385 Paul, R. J., H987 Paul, R. V., H1454 Pauly, J. R., H740 Pawloski-Dahm, C. M., H1047 Pearce, W. J., H1196, H2271 Peeters, L. L. H., H695, H1260 Pelleg, A., H1898 Penn, M. S., H1560 Pepe, S., H797 Perez, N. G., H1131 Perkowski, S. Z., H279 Persson, P. B., H632, H2477 Peruzzi, G., H1157 Peterson, B., H1960 Peterson, E., H722 Pham, I., H1173 Phernetton, T. M., H1730 Phillips, W. T., H2492 Pichel, R. H., H859 Pickar, J. G., H827 Piedras-Rentería, E. S., H1791, H1798 Piepoli, M., H438 Pierzga, J. M., H1609 Pinsky, M. R., H138 Pinto, J. V., Jr., H425 Piper, H. M., H91 Pissarek, M., H1690 Pitsillides, K. F., H1928 Pittman, R. N., H1106

Q

Qi, M., H2416, H2425

Rabkin, S. W., H2885

Poitevin, P., H851

Ponikowski, P., H438 Poole, D. C., H2107

Portman, M. A., H2664 Possas, O. S., H2369

Powers-Risius, P., H1480

Predescu, D. N., H937

Predescu, S. A., H937 Pries, A. R., H2716

Popel, A. S., H1020

Potter, J. F., H1866

Potts, J. T., H48

R

Raffestin, B., H1173
Raimondi, G., H1157
Rainger, G. E., H114
Ralenkotter, L., H2679
Ramirez, M. T., H130
Rangaswamy, S., H1560
Rao, V., H1220
Rådegran, G., H2655
Rasmussen, H. H., H1589, H1680
Rasmusson, R. L., H2013
Raud, J., H1725
Raven, P. B., H1359

Ray, C. A., H1780 Redl, H., H2219 Reeh, P. W., H979 Regan, C. P., H2131 Rehman, J., H1960 Ren, J., H148, H159 Rendig, S. V., H12, H791 Resta, J. M., H1945 Resta, T. C., H806 Restivo, M., H299 Reutter, B. W., H1480 Rhoades, R. A., H2686 Rigel, D. F., H2054 Rios, C. D., H310 Ripper, R. L., H2195 Rivas, F., H760 Rivers, R. J., H2895 Rivier, J., H2115 Roach, R. C., H2655 Robbins, J., H1137 Roberts, P. R., H462 Robinson, B. G., H1589 Robinson, C. J., H1454 Robinson, K. G., H2313 Robinson, R. B., H1549, H2726 Robotham, J. L., H1239, H2736 Rockman, H. A., H1553 Rodman, D. M., H2616 Roesch, D. M., H386 Roman, R. J., H559 Rosen, B. R., H1986 Roth, S. I., H425 Rothe, C. F., H2826 Rotta, A. T., H2377 Rowland, R. T., H2708 Rubart, M., H263 Rubin, L. J., H904 Rudolph, A. S., H2492 Rumschitzki, D. S., H1033, H2023 Rusch, N. J., H1462 Ryan, J., H2989 Rybin, V. O., H1636, H2485, H2726

S

Sabbah, H. N., H722 Saidel, G. M., H1560 Saltzman, D. J., H525 Salzman, A. L., H688 Samarel, A. M., H969, H2416, H2425 San, H., H2385 Sánchez de Miguel, L., H760 Sanders, T. C., H806 Sanguinetti, M. C., H1309 Santiago, J. A., H1491 Sarelius, I. H., H2693 Sarkar, R., H1810 Saruta, T., H679 Sasayama, S., H211 Sato, N., H753 Sato, R., H1053, H1656 Sato, T., H2180, H2446 Sato, Y., H606, H785 Satoh, H., H657, H2425 Satoh, S., H1165 Saumon, G., H2250 Scalia, R., H2584 Schaafsma, L., H76 Schampaert, E., H2079 Schauble, E., H1053 Scherstén, T., H83 Schlag, G., H2219

Schlieper, G., H371 Schmacht, D. C., H2525 Schoenberg, S. O., H2477 Schölkens, B. A., H2701 Schönfeld, D., H2716 Schott, E., H2385 Schrader, J., H371 Schreur, K. D., H2591 Schubert, R., H1147, H2241 Schultz, J. E. J., H2607 Schulz, J. B., H1986 Schulz, R., H1212 Schulze, K., H371 Schwartz, A., H1372 Seals, D. R., H2534 Segil, L. J., H2195 Seidel, H., H2040 Seidelin, P. H., H2079 Seier, F. E., H2630 Serebryakov, V. N., H1147 Serizawa, T., H35 Sethi, R., H884 Sévoz, C., H1250 Shannon, R. P., H585 Shannon, T. R., H2416 Shapiro, P.A., H2227 Sharma, R. V., H1996 Shaw, C. E., H1730 Sheriff, D. D., H553, H1981 Sherrard, B., H1070 Sherwood, O. D., H1791, H1798 Shetty, S. S., H2054 Shi, X., H1359 Shi, X., H1359 Shimizu, T., H17 Shinozaki, Y., H2071 Shirai, T., H1220 Shiraki, K., H211 Shirato, K., H1165 Shishido, T., H2180, H2446 Shonat, R. D., H2233 Shortt, T. L., H1780 Silldorff, E. P., H1231 Simon, A., H859 Simon, G., H648 Simonides, W. S., H1876 Simpson, R. U., H1751 Singh, K., H958 Sipkema, P., H1516, H2963 Siri, F. M., H2394 Sirois, M. G., H2746 Sitbon, M., H1173 Skimming, J. W., H921 Skyba, D. M., H567 Slangen, B. F. M., H695, H1260 Sleight, P., H123 Sloan, R. P., H2227 Smaill, B. H., H2466 Smith, J. S., H1323 Smith, T. W., H958, H875 Smits, J. F. M., H695, H2211 Snell, M., H2343 Sobey, C. G., H256 Sokoloff, L., H1666 Soler, H. M., H1426 Sollott, S. J., H244 Somerman, M. J., H1751 Sonnenblick, E. H., H360 Soonpaa, M. H., H220 Sorota, S., H1904 Souktani, R., H67 Soussi, B., H83 Spaan, J. A. E., H706 Spadacini, G., H123 Sparks, H. V., H913 Spath, J. A., Jr., H279

Spencer, J. A. D., H748 Spencer, R. G. S., H409 Sperelakis, N., H814 Spina, R. J., H995 Spinale, F. G., H969 Spungen, A. M., H835 Spurgeon, H. A., H797 Stanley, J. C., H1810 Stauss, H. M., H776 Stebbins, C. L., H1650 Steinbauer, M., H1710 Steinberg, S. F., H1636, H2485, H2726 Stennett, R., H186, H1382 Stephenson, D. G., H1001 Stergiopolus, K., H299 Stetter, A., H979 Stiffel, V. M., H1196 Stonestreet, B. S., H511 Strasser, R. H., H1672 Strehlow, K., H2701 Strian, F., H2630 Strobeck, M., H1372 Strömer, H., H501 Struyker-Boudier, H. A. J., H2211 Sturgeon, C., H2195 Su, J., H1266 Sudo, R. T., H462 Suematsu, M., H478 Suga, H., H2671 Sugimachi, M., H168, H2180, H2446 Sugimoto, K., H2188 Suleiman, M.-S., H1063 Sumiyoshi, A., H207 Summers, B. A., H350 Sun, D., H1804 Sun, H., H76, H1625 Sun, Y., H1499 Sunagawa, K., H1182, H2180, H2446 Suzuki, H., H679 Suzuki, R., H2782, H2793 Suzuki, S., H1165 Sys, S. U., H1770 Szabó, C., H688 Szczepańska-Sadowska, E., H2282

T

Szymanska, G., H501

Tachibana, H., H2671
Tagaya, E., H1100
Takada, H., H211
Takahashi, T., H35
Takaki, H., H2180
Takaki, M., H2671
Takano, M., H1188, H1741
Takashima, S., H2071
Takauchi, Y., H1182
Takemasa, T., H2188
Takemura, H., H1100, H2639
Takeshita, A., H168

Takeuchi, M., H1165 Tamaoki, J., H1100 Tanaka, M., H701 Tanaka, Y., H17 Taylor, S. E., H1480 Tchou, P. J., H2815 Thomas, J. D., H2453 Thompson, L. P., H1996 Thorlacius, H., H1725 Tjen-A-Looi, S., H2843 Tobin, E. T., H1454 Toda, N., H1582 Todaka, K., H186, H1382, H2869 Tostes, R. C. A., H2385 Toth, K. F., H1996 Tovar, O. H., H1011 Toyama, J., H2599, H2833 Traber, D. L., H2942 Travis, M. D., H2361 Traystman, R. J., H2557 Tsai, A. G., H525 Tschudi, M. R., H493 Tseng, G. N., H1275 Tseng-Crank, J., H1275 Tsutamoto, T., H2139 Tsutsui, H., H168 Tulloh, R. M. R., H2436 Turan, B., H2095 Turner, M. J., H995 Turner, M. R., H392 Tyler, R. C., H2616

U

Uchida, T., H107 Uchiyama, M., H1582 Ucchi, M., H585, H753 Ullian, M. E., H1454 Ungureanu-Longrois, D., H958 Urabe, Y., H168

V

Vale, W., H2115

Vallance, P. J. T., H748 Valle, F., H123 Vallet, B., H613 VanBavel, E., H2241 Van Belle, E., H613 Vandervoort, P. M., H2453 Van Eeden, S. F., H401, H1717, H2852 Van Ginneken, A. C. G., H1759 Van Gorp, A. W., H1260 Van Hardeveld, C., H1876 Van Ingen Schenau, D. S., H1260 Van Pelt, R. E., H2534 Van Teeffelen, J. W. G. E., H706 Van Wagoner, D., H2815 Varadi, G., H1372 Vatner, D. E., H585 Vatner, S. F., H585, H753 Vaughan, J., H2115

Veelken, R., H979 Vergroesen, I., H706 Verheijck, E. E., H1759 Verkeste, C. M., H695 Vespalcova, Z., H1917 Vicaut, E., H67 Vidgoff, J., H2645 Vila, J. M., H1087 Vila-Petroff, M. G., H1131 Villegas, S., H130 Vinet, A., H1078 Vis, M. A., H1516, H2963 Vladic, F., H894 Vogel, J., H1833 Volterrani, M., H438 Vonesh, M. J., H425 Vromen, A., H688

W

Wada, A., H207, H2139 Wagner, C. D., H632 Wagner, M. B., H1759 Wagner, T. E., H585 Walcott, B., H1960 Walker, B. A. M., H401, H2852 Walker, B. R., H806, H1945 Walker, J. D., H969 Wallick, D. W., H2289 Walsh, R. A., H1047 Wang, J., H904, H1382 Wang, S., H1333 Wang, S. N., H1406 Wang, Y., H2513 Wang, Z., H2932 Ward, H. B., H343 Ward, M. E., H1419 Waschke, K. F., H1833 Watanabe, J., H1165 Watanabe, M. A., H1826 Watkins, M. T., H1426 Watson, M., H195 Weaver, L. C., H625 Webb, R. C., H1810, H2385 Webb-Peploe, K., H438 Weinbaum, S., H1033, H2023 Weisel, R. D., H1220 Wen, Y. P., H1960 Wesselman, J. P. M., H2241 Westerhof, N., H1516, H2320, H2963 White, R. E., H2765 Whiteside, C. I., H1220 Wible, B., H2932 Wiedemann, K., H2630 Wight, D. C., H585 Wilderman, M. J., H1350 Wilders, R., H1759 Williams, B. A., H1292 Williams, D. A., H236 Williams, D. J., H748 Wilson, L. B., H48 Winslow, R. M., H525 Wiviott, S. D., H875 Wolf, R., H2976

Wollny, T., H2875 Wong, P. Y.-K., H843, H2327 Wu, H. M., H1437

X

Xiao, R.-P., H590, H797 Xiao, Y., H2664 Xie, L.-H., H1741 Xu, J., H1898

Y

Yamaguchi, H., H2671 Yamamoto, R., H207 Yamamoto, S., H168, H1239 Yamamoto, Y., H1113 Yamashita, K., H2188 Yamauchi, T., H517 Yamazaki, T., H1182 Yanagita, T., H207 Yang, C. C. H., H485 Yang, X.-P., H722 Yao, A., H35 Yao, J. A., H1275 Yao, Y.-M., H2219 Yao, Z., H334, H2607 Yassouridis, A., H2630 Yasuda, S., H2989 Yatani, A., H478, H606 Ye, J.-M., H2146 Yedgar, S., H538 Yi, G.-H., H1382 Yin, F. C. P., H2320 Yin, H., H299 Yin, K., H843 Yin, Y., H1033 Yokoshiki, H., H814 Yokoyama, M., H2807 Yoshida, T., H168 Yoshimura, R., H2180 Yoshimura, Y., H701 Yuan, W., H2425 Yuan, X.-J., H904 Yuan, Y., H1437 Yue, G., H843 Yuhi, T., H207

7

Zaloga, G. P., H462 Zapata-Sudo, G., H462 Zeisse, Z. B., H99, H1928 Zhang, J. X., H2736 Zhang, L., H2271 Zhao, W., H2859 Zhao, X., H869 Zhao, Y.-J., H904 Zheng, J., H1730 Zhou, J., H2453 Ziman, B. D., H590 Zion, A. S., H2227 Zipes, D. P., H263 Zochodne, D., H76 Zolk, O., H2701 Zou, A., H1309 Zuckerman, S. L., H1323 Zuidwijk, M. J., H1876 Zwischenberger, J. B., H2942 Zygmunt, A. C., H1

